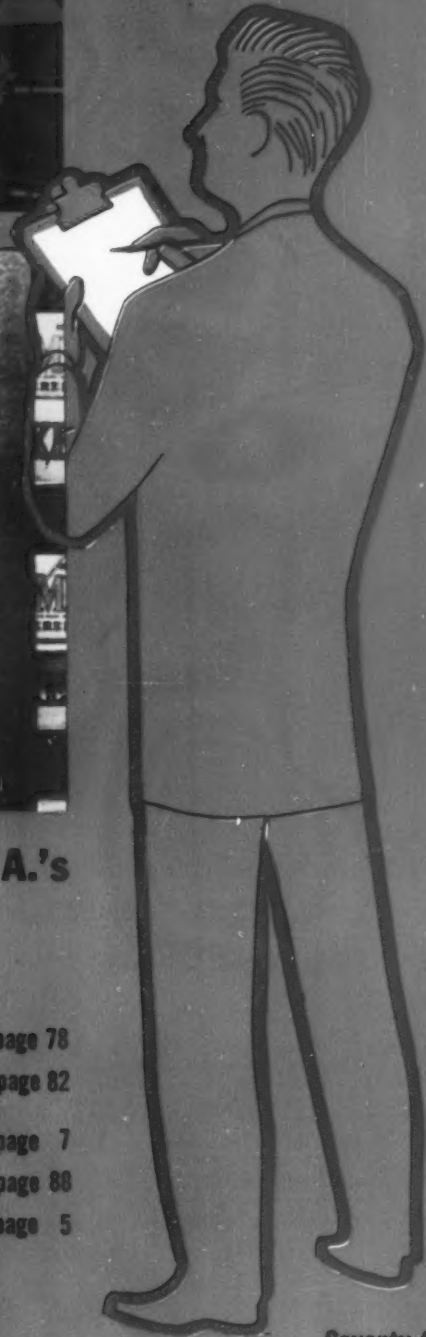


MARCH 3, 1958

PURCHASING

Magazine for Industrial Buyers



INVENTORY MANAGEMENT FOR P. A.'s

Purchasing's Big Role in Inventory Management

A 4-Point Program to Cut Stocks page 78

Bold New Approach Saves \$100,000 page 82

Also: Business Outlook page 7

Short Cuts for Buyers page 88

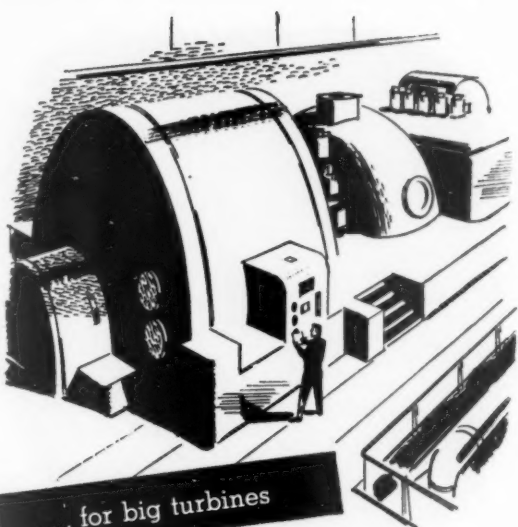
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For turbines afloat



... for turbines ashore



... for big turbines



... for small turbines

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MACHINERY MANUFACTURERS: Your customers abroad will receive the same dependable Shell Turbo Oil that your domestic customers enjoy. And this same uniformity applies to

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How to increase product reliability by eliminating the loose fastener problem

Use UNBRAKO self-locking socket screws to keep your assemblies tight

With the Missile Age has come the realization that as mechanisms become more complex and automatic, every part must have a high degree of reliability, regardless of size or function, no matter how insignificant it may seem.

Most product mechanical failures occur at or around joints—the points of high stress concentrations. Threaded fasteners are widely employed to secure joints because they usually must be designed for disassembly as well as assembly. Far too frequently, however, they vibrate loose, acting more like “threaded looseners,” and causing equipment malfunction, breakdowns and customer complaints. In some instances—ordnance or aircraft, for example—the consequences can be disastrous.

UNBRAKO socket screws with the Nylok* self-locking feature offer you a simple, practical solution to this problem. An UNBRAKO with Nylok is a single, self-locking unit requiring no auxiliary locking devices, no extra time or labor to install. The tough, resilient nylon pellet forces mating threads tightly together, locking the screw securely, seated or not, wherever wrenching stops. It will not work loose, despite severe vibration. Furthermore, a self-locking UNBRAKO can be used repeatedly. In contrast, lockwashers sometimes snap or lose their spring if frequently tightened; and a cotter pin cannot safely be used more than once.

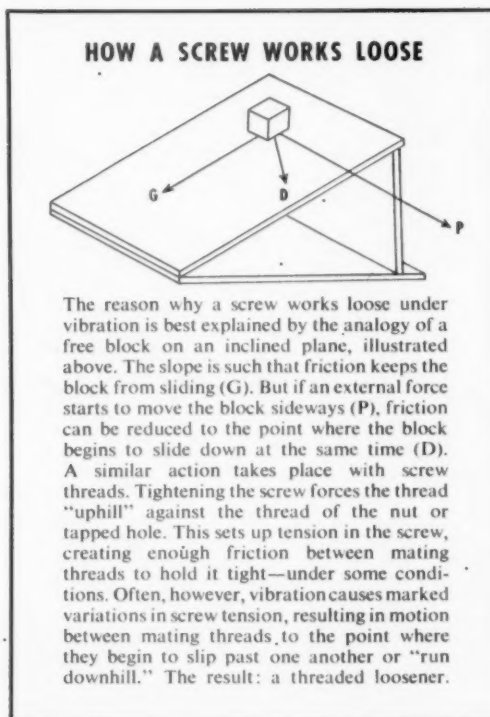
Off the shelf, a self-locking UNBRAKO may cost slightly more than an ordinary fastener. But f.o.b. your product, it usually costs less . . . assembly time, labor and reliability factor considered. See your authorized SPS distributor for complete details. He carries a full line of UNBRAKO self-locking products. Or write us for literature and samples. Unbrako Socket Screw Division, STANDARD PRESSED STEEL CO., Jenkintown 31, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

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At SPS we apply a dynamic standard of quality—continually refined—so that our fasteners will always have the high reliability factor required by today's faster speeds, higher temperatures, and greater dynamic forces. By using SPS fasteners in your assemblies, you increase overall reliability—the certainty of predictable performance under actual service conditions.

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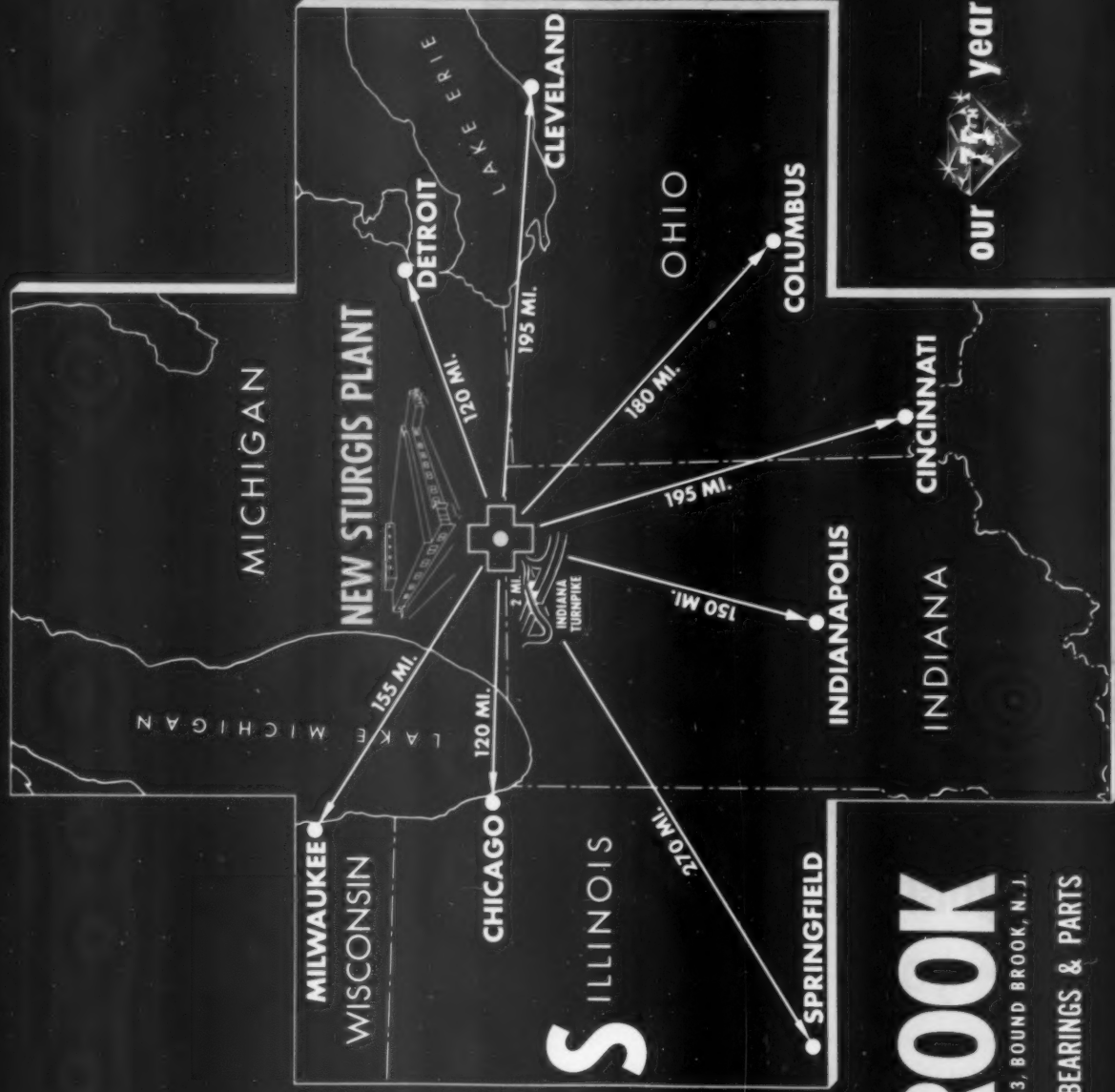
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PURCHASING

The Methods and News Magazine For Industrial Buyers

MARCH 3, 1958

Volume 44, No. 5

B. P. MAST

Chairman of the Board

RAY RICHARDS

Publisher

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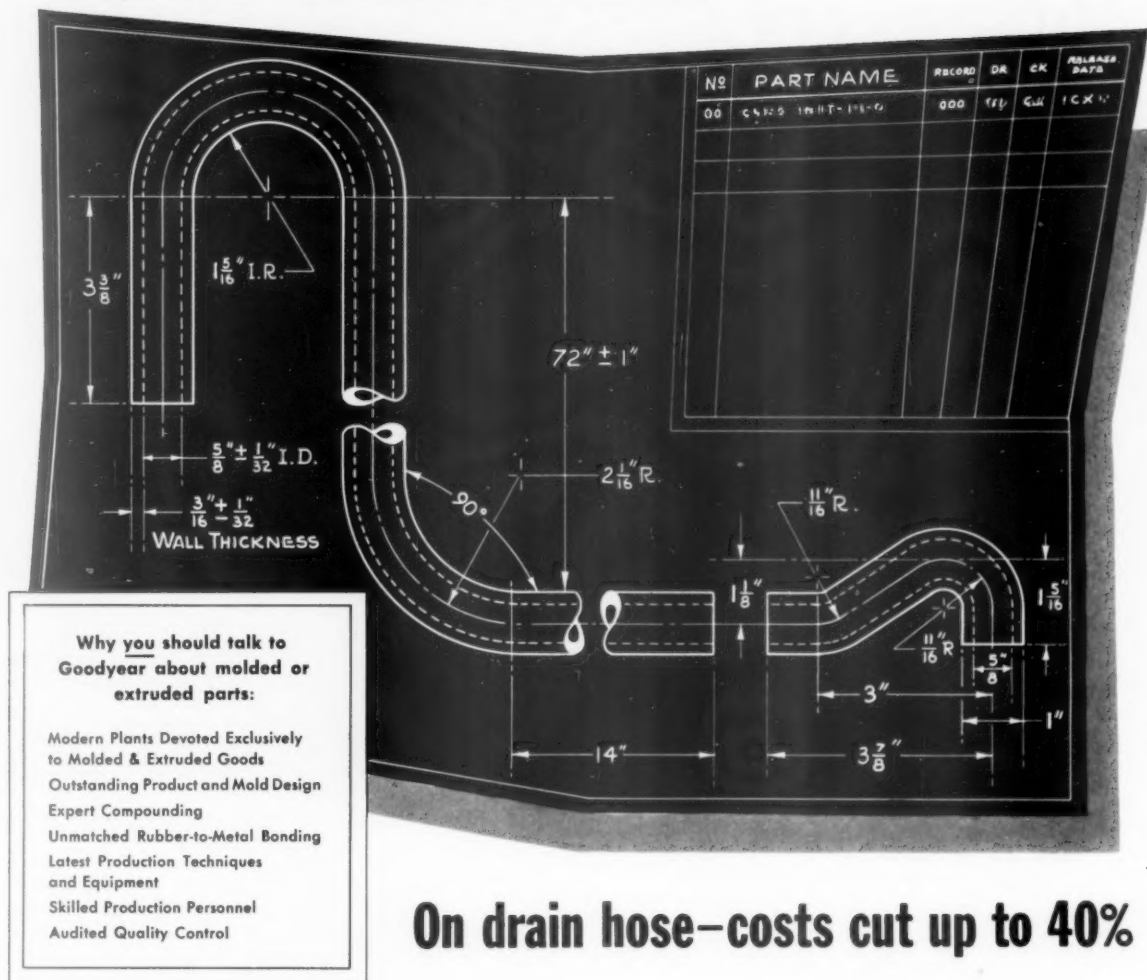
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For More Information Write No. 157
← on Inquiry Card—Page 32
MARCH 3, 1958

Blueprint for "cost reduction #EM-581"



On drain hose—costs cut up to 40%

Detailed above is one of the many types of washing machine drain hose made by Goodyear for leading appliance manufacturers. Behind this part lies a story of savings which is typical of much of the molded and extruded rubber and plastics goods that flow from the modern Goodyear plants at St. Marys, Ohio, and Los Angeles, California.

It used to be that drain hose was a relatively expensive accessory to purchase. But today, through custom compounding and suggested changes in the design of the product, Goodyear has dropped the price as much as 25% to 40%.

What's more, the need for resistance to heat, water, detergents, flexing and age has been fully met, the quality of product actually improved.

The reasons why Goodyear can and does effect cost reductions on many types of molded and extruded rubber goods are listed in the panel above. If you would like more information or an invitation to visit one of the plants, just contact your local G.T.M.—Goodyear Technical Man. Or write direct to Goodyear, Industrial Products Division, St. Marys, Ohio, Los Angeles 54, California, or Akron 16, Ohio.

MOLDED AND EXTRUDED GOODS BY

GOOD YEAR

THE GREATEST NAME IN RUBBER

For More Information Write No. 158 on Inquiry Card—Page 32



Pulse of Business

No Cheer in Economic Figures

ALL THE LATEST economic reports are bad. The big shocker, of course, is the unemployment figure which shows that 4.5 million people are out of work. This is the highest level of unemployment since the postwar peak of 4.7 million established in February 1950. What makes the statistic even worse is the fact that the 1.1 million rise from the previous month's jobless total was more than twice the normal seasonal rise and represented the largest increase since the government started keeping unemployment figures in 1940.

The increase in unemployment frankly startled Administration leaders and set off a fire-cracker string of economic save-the-nation schemes in Washington. In the forefront were the Democrats who naturally—and logically—are not above playing politics with "Ike's Recession."

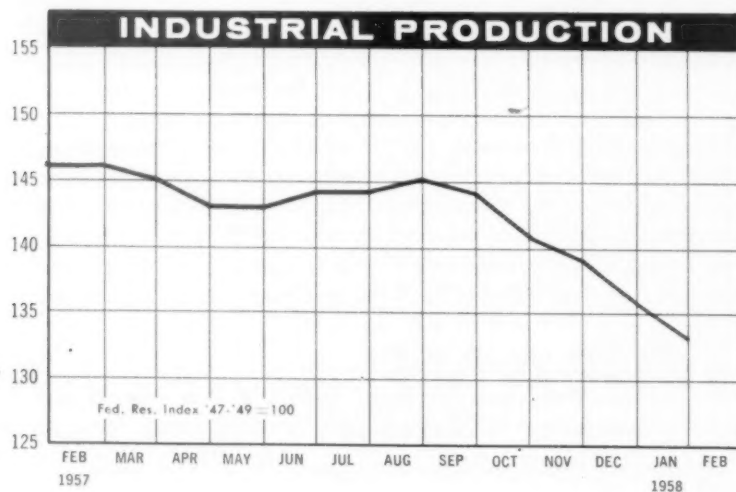
Production Is in Steep Decline

Along with the gloomy report on unemployment was the Federal Reserve Board's announcement that the Industrial Production Index dropped another 3 points in January to 133 (adjusted)—the lowest it has been since February 1955.

The other major economic indicators—especially those in the labor-wage areas—were also down (see *Business Trends*, p. 13). About the only noticeable improvement was in housing starts which rose slightly to over the one-million-per-year rate. In addition, steel was showing signs—not of a pickup—but of at least leveling off from its lengthy decline.

With the exception of the unemployment figure which has more emotional impact than most of the statistics, the cold accounting of the facts doesn't present too graphic a picture of how severe or how mild the recession actually is. A lot of games can be played with statistics pointing out the per cent of decline from previous highs. Depending on the figures used, the recession can be made to look like the 1930's all over again—which it isn't, or it can be

With the latest drop in the FRB Industrial Production Index, the nation's output has now declined more than eight per cent in the last five months.



Roper Hydraulics, Inc. Experiences CRANE Quality



Uses CRANE valve on severe throttling for 23 years—without repairs

Twenty-three years ago, Roper Hydraulics, Inc., Rockford, Ill., installed this Crane 2½-inch, 300-pound bronze plug disc angle valve for throttling service on a 300- to 400-pound pump test line. Since then, testing has been done at pressures up to 1000 pounds without valve failure.

Altogether, this Crane valve has been operated intermittently on an average of 30 hours weekly for 23 years! Only recently was it necessary to replace some of its

working parts. Here is demonstrated proof that Crane quality is really the durable kind purchasing agents seek... the dependable kind that engineers and plant operating people want.

In valves and fittings for every service, Crane quality gives greater assurance of value—it's today's most reliable price tag. And on all your piping equipment needs, you can get prompt delivery through your local Crane branch or wholesaler.



IDEAS FOR YOU in the 36-page booklet "Valve Performance Facts." Ask your Crane Man for a copy, or write to the address below.

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made to match President Eisenhower's stiff upper lip analysis—which it really doesn't either.

Business From The P.A.'s Angle

The best composite view of the business situation is from the P.A.'s desk. From the thousands of surveys of purchasing executives and from the many personal interviews made by *PURCHASING Magazine*, this is the way business situation looks: production is down, so are order backlogs; a number of people have been laid off, inventories have been cut and are being held at minimum levels; more salesmen are calling than in a long, long time; deliveries and service are better; some prices are down but overall price firmness is the keynote, most items are being bought on a 30-day or less basis.

That's it. It's a slump, but it's not the end of the world as some reports would make it seem. In fact, P.A.'s generally are showing amazing confidence about the near-term outlook. *Purchasing Magazine's Business Confidence Index* (p. 11) which reflects how P.A.'s feel about the business outlook for the next three months rose a startling 10 points this month. Overall, the index shows that P.A.'s are expecting slightly better business during March, April, and May. This same trend has been evidenced in interviews with P.A.'s. They're frank in admitting that business is way off, but they are also confident that we're not heading for a major economic decline.

Run to Mother Government

Nevertheless, there's a lot of pressure for government action to stem the recession. There seems to be almost a prosperity psychosis—the feeling that each year has to top the previous year or else we're doomed.

Recently the Federal Reserve Board reduced the reserve requirements of its member banks. This is a much more drastic action than its previous reductions of the discount rate. The effect will be to increase the money supply considerably. Ideally, this will stimulate new plant and equipment expenditures and will encourage businessmen to increase their inventories since it will be less expensive to carry higher stocks.

However, it is likely that this will turn out to be a case of the horse's not being thirsty. On inventories, for example, the feeling you get from most P.A.'s is that there's just no reason to stock up now or in the near future. There is no difficulty in obtaining most items on a short delivery basis so the act of easing the money supply further can't be expected to set off an inventory buying spree. Same with new plant and equipment outlays.

It will take a major economic upsurge before most companies start building up their inventories or move to boost capacity again. The fact is that monetary action is much more effective at controlling a boom than in turning a recession.

Tax Cut May Be In the Offing

If the recession hasn't leveled off by April the chances are strong that there will be a tax cut. Also, there might be an increase in unemployment benefits and stepped up government spending—especially where it would be felt quickest—the road-building program and defense.



You get more . . . with American's Big Four

Consider the big four factors — quality, research, service and value. These are the things which make up your true fastener costs . . . and only at American do you get more of all four.

More in service — the "we-care-about-you" kind of service that has made American famous. Each order gets personalized attention and yet American is staffed and equipped to meet even the most stringent production schedules.

More in quality — that reduces production line downtime . . . cuts tooling costs by supplying consistently high-standard fasteners.

More in research — by the company that originally developed the Phillips fastener.

More in value — occasional local price differences do not represent true value . . . American's top quality means top value.

Compare! Send your inquiry for price and delivery of stock fasteners . . . or send your specifications for special units. When you want more of all four — American is the name!

The biggest news in fasteners comes from . . .

Wood Screws • Machine Screws • Nuts • Tapping Screws
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CHICAGO, ILL. • DETROIT, MICH.

The P.A.'s Outlook

- Second Quarter Rise Predicted by P.A.'s
- Short-Term Outlook Reported Improving
- Local Associations Note Steady Prices

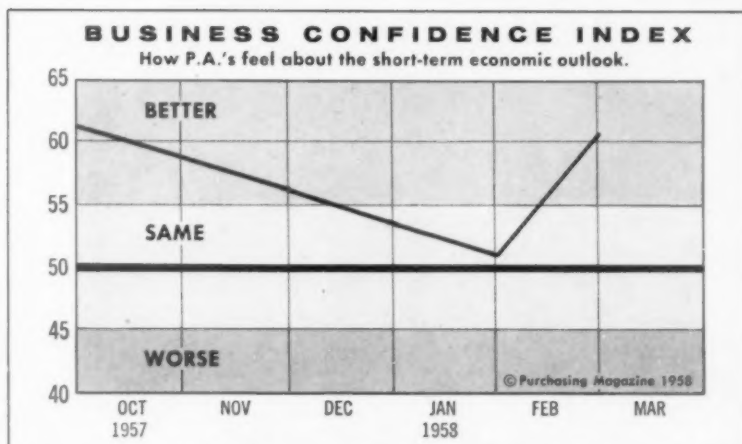
PURCHASING MAGAZINE'S February Opinion of Business Poll shows that P.A.'s are considerably more optimistic about the short term business outlook than they were only a month or two ago.

Another trend that becomes apparent from surveys of purchasing executives is that prices are showing extreme stability. This fact is indicated clearly in the monthly surveys of the Purchasing Agents Associations of Chicago, Cleveland, New England, and Canada.

P.A.'s See Upturn

Despite the predictions of most economists that the business upturn won't begin until the second half, a noticeable groundswell of purchasing opinion predicting an earlier rise is evident. Many P.A.'s see the next three months as key ones for their companies, with an increasing number of new orders slated to arrive at their plants.

A random sampling of comments by P.A.'s gives evidence of this feeling. "Expect pickup after first quarter," says the P.A. at an eastern iron company. "Seems as though the recession has hit bottom," states an executive for a midwestern diecaster. An Iowa purchasing agent says "believe second quarter should start an upturn with good activity in the latter part of the year." The director of purchases at an upstate New York manufacturing company



An overwhelming display of optimism about the future by the nation's purchasing agents boosted the Business Confidence Index 9.7 points to 60.5. The P.A.'s combined opinion that business will improve in March, April and May pushed the index back into the "better" category after two months in the "same" area and portends a more rapid recovery from the current recession than has been generally forecast.

believes "January indications already showed an upward trend."

This cheeriness is not unanimous, however. Some P.A.'s still forecast bleak times ahead. For example, a P.A. for a midwestern drill manufacturer notes his reluctance "to purchase capital equipment." And more than one buyer for machine tool corporations anticipates an even further decline.

Nevertheless, the majority of P.A.'s queried are in an optimistic mood regarding the near future. As one New England purchaser says, "I think that by the end of the summer we will be out of the recession."

Prices Holding Steady

The Chicago Association survey reveals that "prices continue to reflect the lateral movement of business." It adds that "prices for the most part are holding relatively stable."

According to the association, 86 per cent of those surveyed reported no change in their purchased material costs from a

month ago. A meager eight per cent say they paid higher prices and an equally small six per cent report lower prices.

"Very little change in commodity prices" is also reported in the Cleveland association survey. "The same" prices are being paid by 84 per cent of those polled, the survey notes.

Steady prices for rubber chemicals is noted by the New England Association. It says "sales representatives of all suppliers are selling with additional enthusiasm; competition is very keen and salesmen are really hungry for orders." The survey adds that "deliveries continue to be prompt, and the majority of orders are placed to cover only short-term requirements."

The Canadian Association writes that commodity prices "have been less variable in recent months. There appears to be no serious shortages and this fact continues to be reflected in buying policies."

Lower prices are cited for sugar and lead, it also notes.



- Feeder Unit powered by 1/4 hp 115 volt AC motor

- Adjustable Frame Support and Strap Chute Sections

- Foot Switch

- Signode Model DF20 Strap Dispenser

New Signode power strap feeder puts strapping around big packages fast

Another "stand and wait" job hits the skids! Now, for the first time, one man straps big packages without a helper and without walking around the package. The new Signode power strap feeder applies 200 or more straps per hour to big packages. Only eight to ten seconds are needed to apply one strap to the container above.

Cost of the equipment is modest, yet it handles a wide range of package shapes and sizes. Components are shipped ready for assembly, tailored to your needs. The new Model PSF-1 can be used with any

Signode seal feed tool—hand, pneumatic, or electric—mounted in a tool balancer. Strapping may be fed either up or down. The feeder will take any one size of any kind of Signode strapping $\frac{3}{4}$ " or smaller. Strap size adjustment is simple.

The PSF-1 Power Strap Feeder is simple and versatile. It can be inserted into almost any conveyor system or set up in a separate strapping station for unitizing.

For information about this important advancement in strapping speed and ease, call the Signode man near you, or write:



First in steel strapping

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2676 N. Western Avenue, Chicago 47, Illinois

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For More Information Write No. 161 on Inquiry Card—Page 32

Business Trends

- **Business Statistics Show Across-the-Board Slump**
- **Installment Credit Will Be a Key Indicator**

BUSINESS STATISTICS continue on the sour side. Hitting some of the recession low spots, here's how the picture shapes up:

Business Failures: In the first week in February, business failures hit a postwar high of 342. In itself, a one-week report on business is not too significant. However, on a monthly basis, failures in January were running 11.4 per cent ahead of January '57, so it appears a trend may be developing.

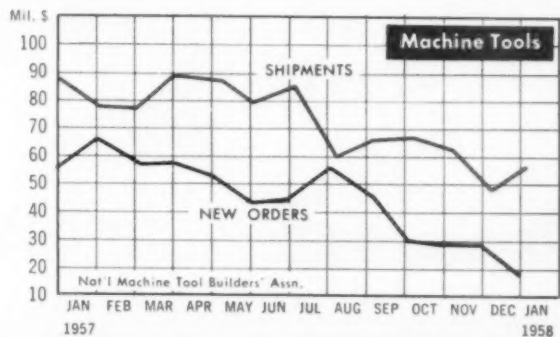
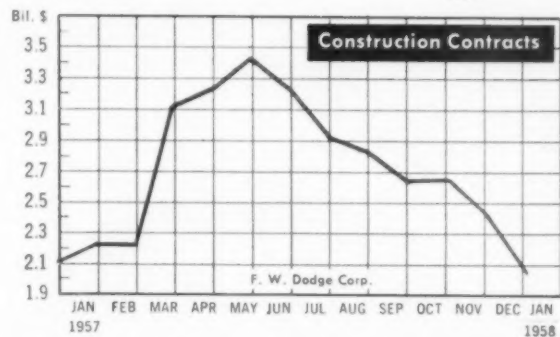
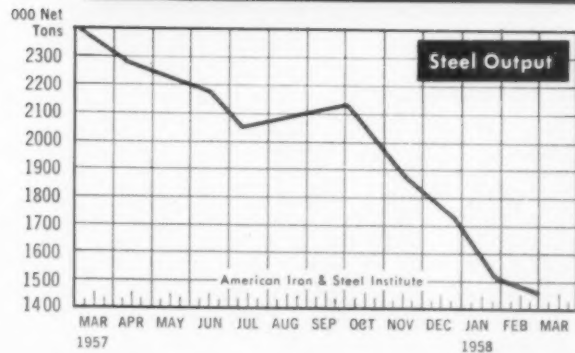
Steel: Production in January totaled 6.7 million tons while in the same month in 1957 output amounted to slightly more than 11 million tons—a production drop of 39 per cent.

There are signs however that the steel production decline is tapering off. This does not mean there will be a sudden marked pickup in the steelmaking rate but the leveling out point seems to be near. For many months activity in steel consuming industries has been higher than in the steel industry itself, so it is logical to expect that steel users will soon have to increase their orders.

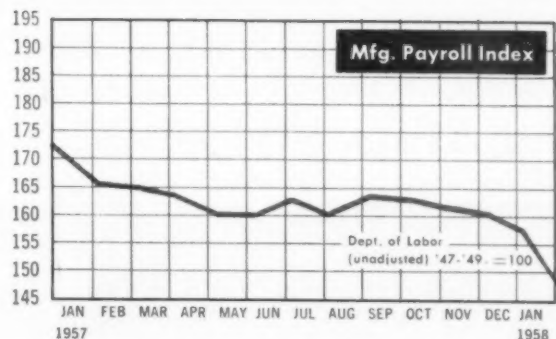
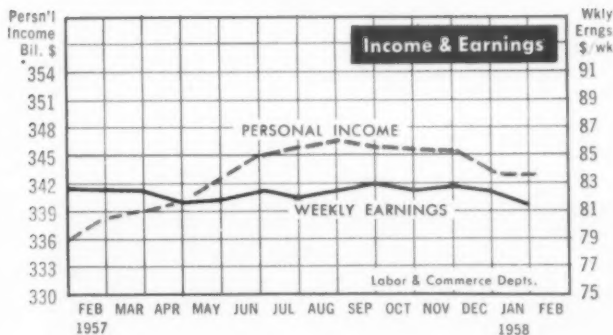
Autos: Production through mid-February totaled 821,912 cars and trucks compared with a same-period-last-year total of 1.1 million. This is a drop of 25.3 per cent.

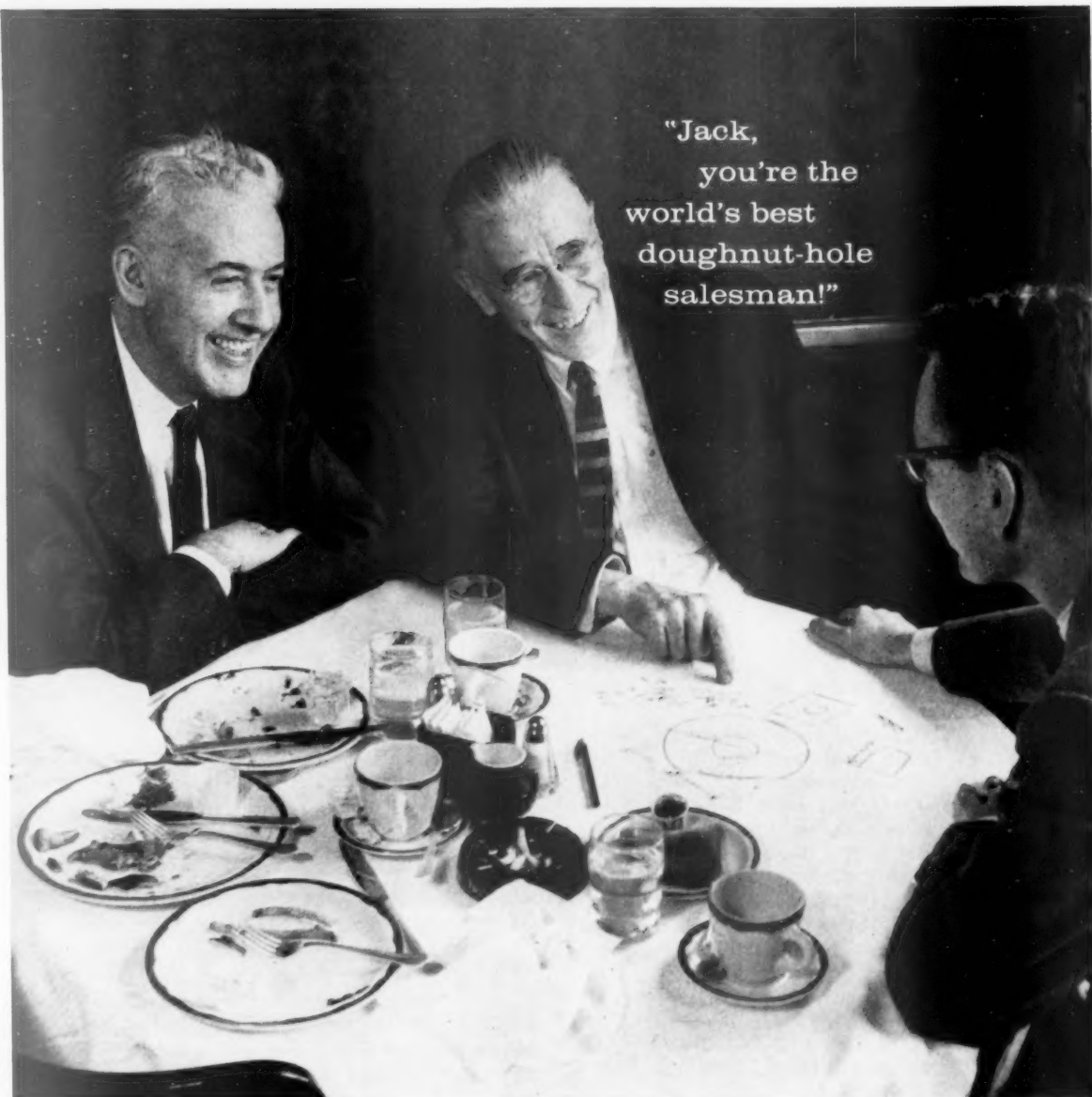
Machine Tools: A preliminary tally is in on the whole of 1957 which shows that net new

PRODUCTION



LABOR





"Jack,
you're the
world's best
doughnut-hole
salesman!"

Bringing two purchasing agents together over a friendly lunch resulted in an unusual sale.

It all started at the plant of an appliance manufacturer where Jack Hammond, an Inland sales representative, watched as a 12" diameter hole was blanked out of a sheet of steel. Noting carts filled with the punched out discs, he asked what was done with them. "We sell them for scrap," was the answer.

A few days later, Jack was in the plant of another customer . . . a metal specialty fabricator. Here, he saw a cup being drawn from steel circles . . . and got an idea. After cross-checking specifications, he found

that the scrapped blanks of customer "A" would work perfectly for customer "B."

Getting these customers together at lunch had this happy result: one, now, obtains a much better price for his blanks . . . the other has a steady source of pre-shaped steel circles at a price that reduces his production costs over \$6,000.00 a year.

We like to feel that Jack's action in this instance is typical of all Inland sales representatives. We think that their interest goes beyond just "selling steel." We hope you do too.

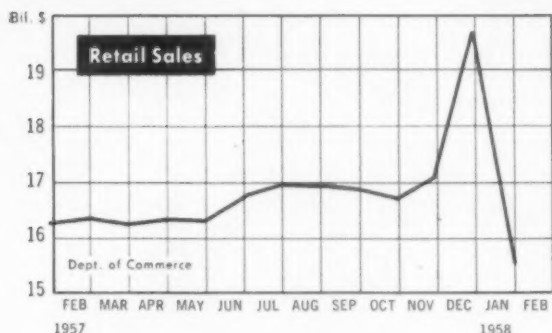
INLAND STEEL COMPANY

30 West Monroe Street • Chicago 3, Illinois | Sales Offices: Chicago • Milwaukee • St. Paul • Davenport • St. Louis • Kansas City • Indianapolis • Detroit • New York



Business Trends

TRADE



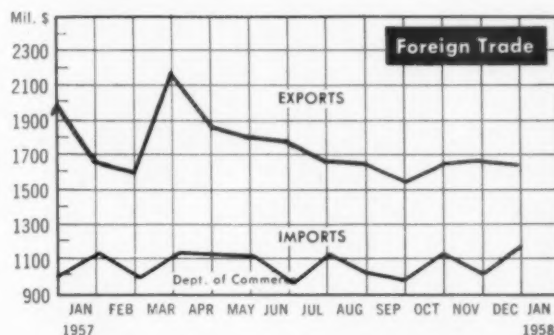
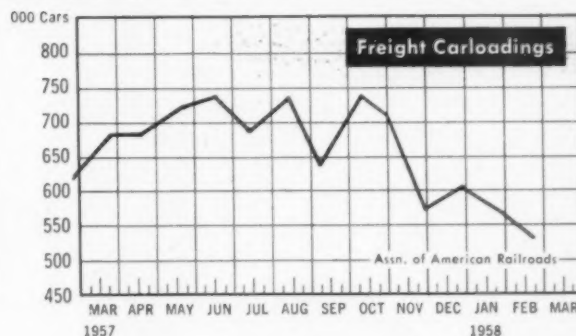
orders totaled \$519.5 million ('56 figure was \$924 million) and shipments amounted to \$843.2 million (close to the '56 delivery rate of \$886.1 million). Order backlogs now amount to three-months' production, exactly half what they were in January 1957. The backlog is expected to go even lower as a result of the general cutback in new plant and equipment spending.

Freight Carloadings: As of early February, total carloadings amounted to 3.2 million cars compared with 3.8 million a year earlier. This is a 15.8 per cent drop.

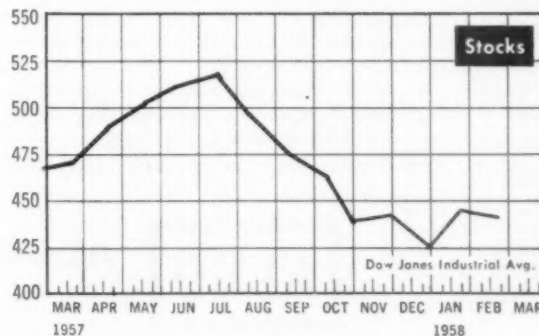
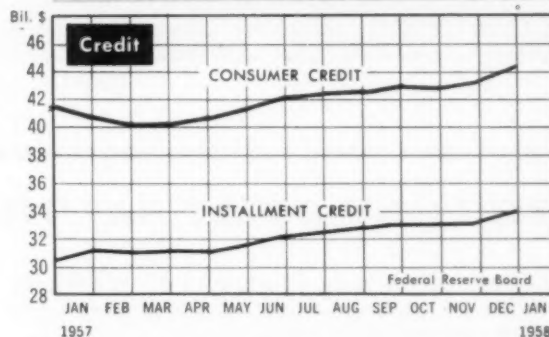
Labor: The number of employed in January totaled 62.2 million compared with a January '57 figure of 62.5 million. With 300,000 fewer people working and with the labor force having grown by about one million over the last year, unemployment has been pushed up to 4.5 million.

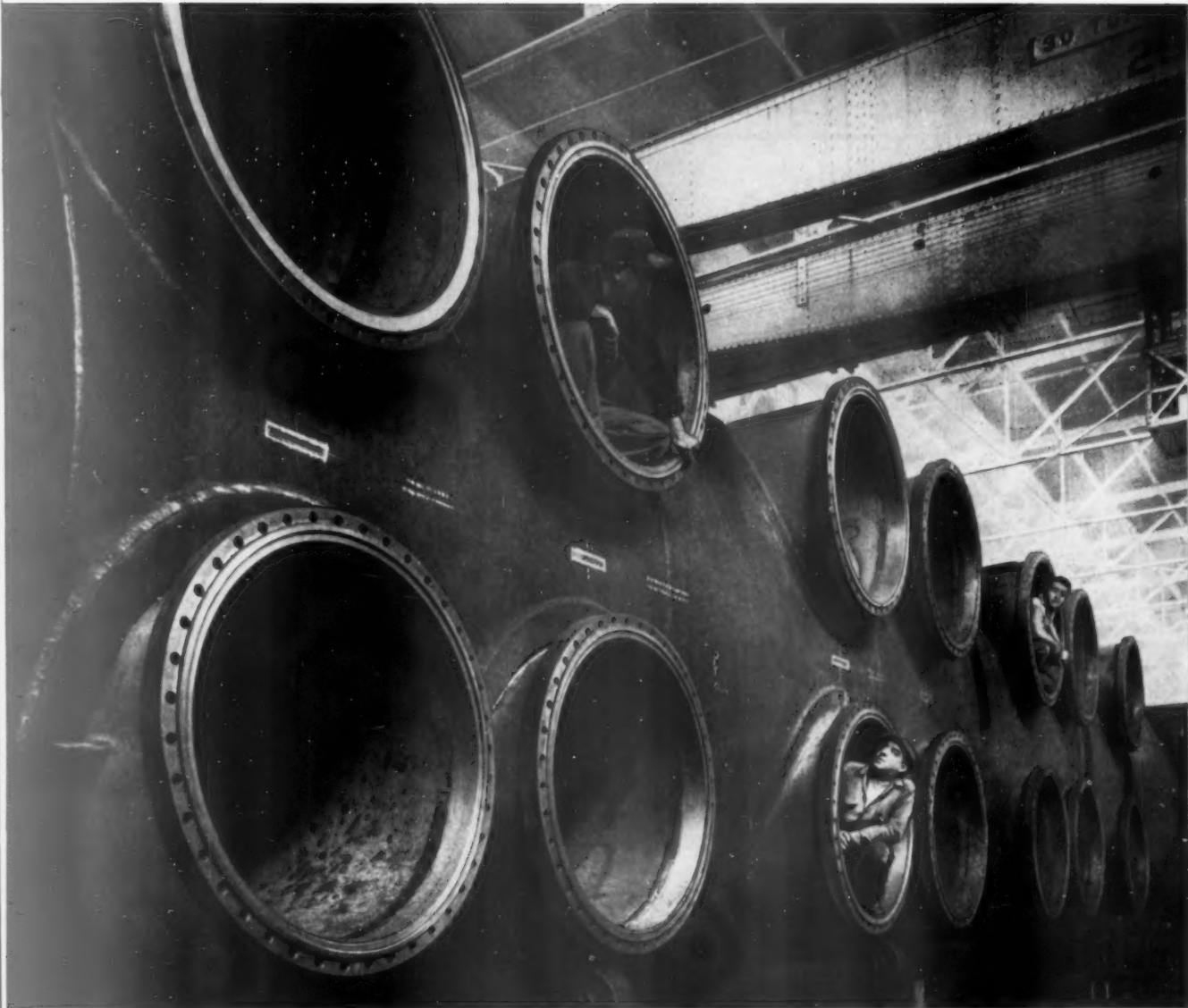
Although hourly earnings of factory workers held at \$2.10 in January, the shorter work-week caused by production cutbacks lowered average weekly earnings to \$81.27 compared with \$82.41 in December.

Installment Credit: Keep your eye on this category—it's a good indicator of consumer confidence. Installment credit has been rising steadily ever since the end of World War II despite the business slumps of '49 and '54. Now, however, an economist for one of the leading finance organizations (HFC) is predicting a decline. It will take quite a while to tell whether he's right, however. A drop in the January figure won't necessarily mean that a trend is starting. Declining credit figures in January are a common post-Christmas adjustment.



FINANCE





ALCO flanges on this fractionating tower fitted and welded better, saved shop time.

YOU GET 3-WAY SAVINGS WITH ALCO FLANGES

Because ALCO produces and forges its own flange steel, controlling metallurgy to your exact requirements, you benefit three ways by specifying ALCO.

First, the precise chemistry and steel structure of the flanges mean that you can set your welding procedures for economy and for a better weld.

Second, since your flanges are uniform in metallurgy, forging and machining, you will find that they reduce assembly time and eliminate delays in fitting.

If your steel specifications are unusual, ALCO's steel

producing facilities provide a third important benefit—prompt delivery of flanges in special steels.

The added value in ALCO seamless forged and rolled flanges costs you no more. Welding-neck, slip-on, lap-joint, blind, TEMA hub and ring flanges, as well as many other types are available from 18 to 145 in. OD.

For complete information on the many advantages of ALCO flanges, call your nearest ALCO sales office, or write for 54-page catalog to ALCO Products, Inc., Department 151, Schenectady, New York.

ALCO

ALCO PRODUCTS, INC.

NEW YORK

SALES OFFICES IN PRINCIPAL CITIES

LOCOMOTIVES • DIESEL ENGINES • NUCLEAR REACTORS • SPRINGS • STEEL PIPE • FORGINGS • OIL-FIELD EQUIPMENT

Price Trends

- **Wholesale Index Up, But Nonferrous Down**
- **Fuel Trading Slow Despite Discounts**

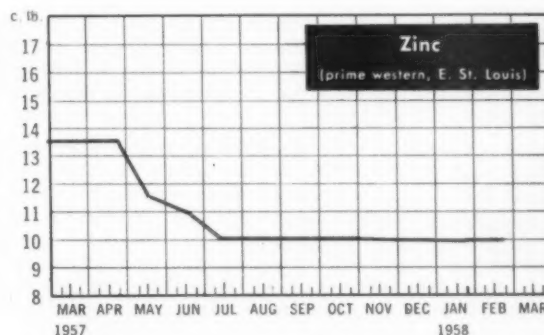
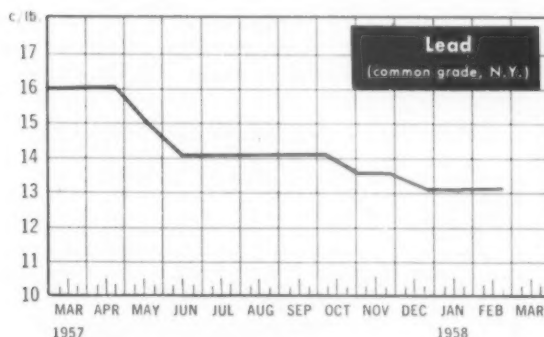
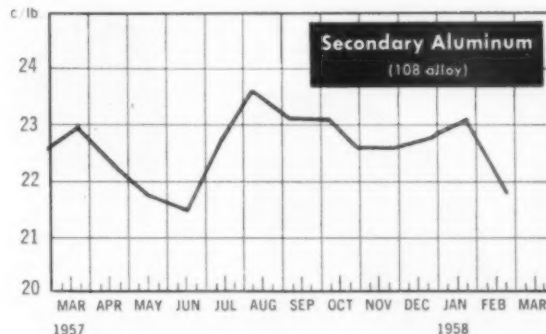
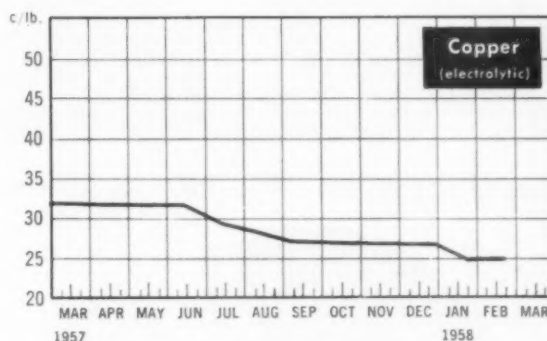
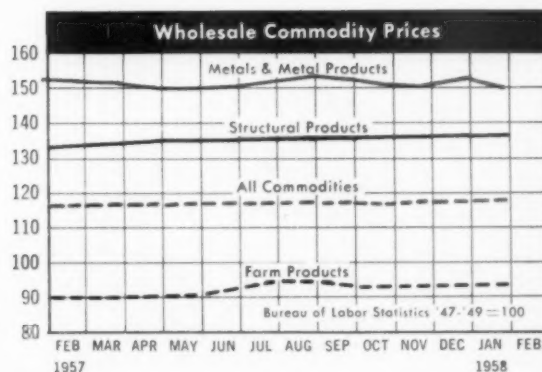
THE WHOLESALE COMMODITY Price Index rose .2 per cent in January, despite a slight drop for all commodities other than farm products and foods. In addition to nonferrous metals, other commodities that declined included plumbing and heating equipment, steel barrels and storage tanks.

Discounts have been reported on No. 6 fuel oil, even though the price fell recently. And despite the fact that the nation is in the throes of a cold snap, producers are trimming their purchases and processing. Trading is slight both along the East Coast and the Gulf of Mexico.

Cotton Shortage Possible

The problem of a shortage of high grade cotton may plague the nation's textile mills this year unless legislation increasing the permissible acreage is enacted. The poor quality of last year's crop (caused by the erratic weather) might create a tight supply situation in the good grades until the next crop is ready for sale.

In the face of another decline last month in the custom smelter price, copper executives are pushing their drive to bring supply more in line with demand. Coupled with the January decrease of almost 10,000 tons of refined copper in the hands of producers, the new curtailment programs in the United States, Chile and the Belgian Congo might slow down—or even



For More Information Write No. 163
 on Inquiry Card—Page 32
 MARCH 3, 1958

World's First Nuclear-Powered Surface Ship will have **MIDWEST** Welding Elbows



U. S. Navy's guided missile, nuclear-powered cruiser "Long Beach"

OFFICIAL U.S. NAVY PHOTOGRAPH

Special Fittings are "ROUTINE" for Midwest



Stainless Steel
S.R. 102° Elbow
with tangent on one end.



Stainless Steel
S.R. 90° Elbow
with tangent on both ends.



Stainless Clad
S.R. 39° Elbow
with tangent on one end.

Special Elbows (dimensions, tangents, wall thicknesses and materials) are easily provided by the exclusive and flexible Midwest method. Elbows are available in any material that can be secured as plate, which also means better delivery. Closer tolerances are inherent in the Midwest process. Quality control always exceeds Code requirements.

Shown here are three of the special stainless steel and stainless-clad elbows made by Midwest for the "U.S.S. Long Beach". All reactor coolant piping must meet extremely rigid specifications because of the difficult service. Special quality controls, such as ultrasonic testing, intergranular corrosion tests, dye checking, radiography, and ring flattening tests were used one or more times at various stages of manufacture from the raw material to the finished fittings. Special quality standards for soundness of metal, "water clear" welds, dimensional accuracy, and surface finish were satisfied.

The U. S. Navy's first nuclear-powered surface ship, the "Long Beach", will introduce a radically new concept in defense capabilities. She will operate offensively and independently of other forces under conditions of both nuclear and non-nuclear warfare against airborne, surface or under-sea opposition. In addition to equipment and weapons for detecting and destroying enemy submarines, she will carry the Navy's modern guided missiles.

The piping for the atomic reactors being designed and developed by the Westinghouse Electric Corporation will use a large number of special heavy wall stainless steel Midwest Welding Elbows. This is not the first atomic project for which Midwest Welding Fittings have been used. In fact, when the nuclear propulsion program first began, Midwest furnished special welding fittings for the "Nautilus" prototype installation at Arco, Idaho.

Whether or not you are concerned with nuclear power, Midwest Welding Fittings (both stock and specials) will do a better job for you. Ask your Midwest distributor or write us for Catalog 54, which tells you why.

MIDWEST PIPING COMPANY, INC.

Main Office: St. Louis 3, Missouri (P.O. Box 433)

Plants: St. Louis, Clifton, N. J. and Los Angeles

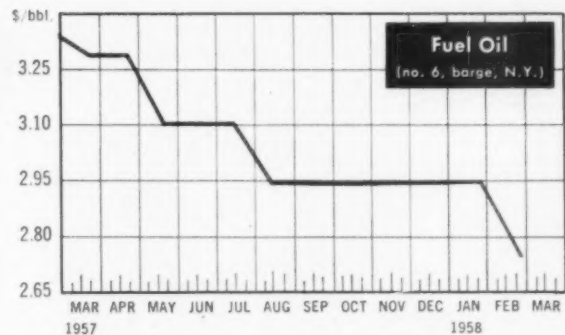
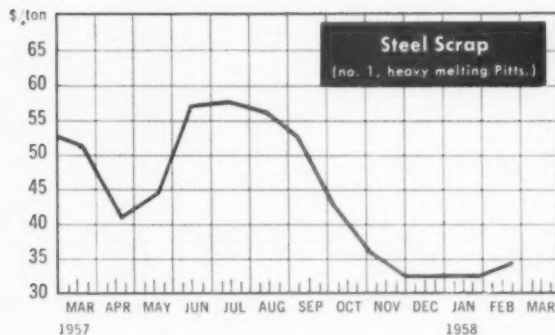
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CHICAGO 3—79 WEST MONROE ST. • CLEVELAND 14—616 ST. CLAIR AVE.
HOUSTON 2—1213 CAPITOL AVE. • LOS ANGELES 33—520 ANDERSON ST.
MIAMI 34—2103 LE JEUNE RD. • NEW YORK 7—50 CHURCH ST.
PITTSBURGH 19, PA.—437 GRANT ST. • ST. LOUIS 4—1450 S. SECOND ST.
SAN FRANCISCO 11—420 MARKET ST.

STOCKING DISTRIBUTORS IN PRINCIPAL CITIES

MIDWEST

WELDING FITTINGS IMPROVE PIPING DESIGN AND REDUCE COSTS

Price Trends



halt—the downward trend of copper prices.

Zinc and lead producers are embarking on a large-scale research program to consolidate and expand existing markets, along with discovering new ones. One probable reason for the push: American consumption of slab zinc dropped seven per cent last year to 936,000 tons and shipments also fell eight per cent to 959,568 tons.

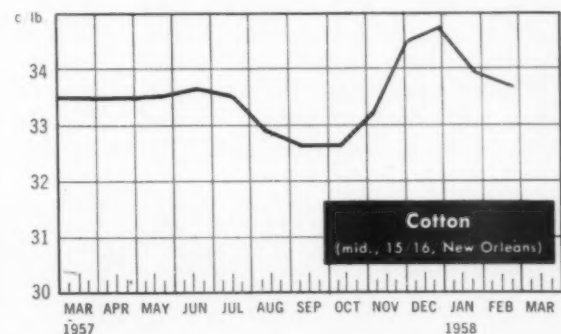
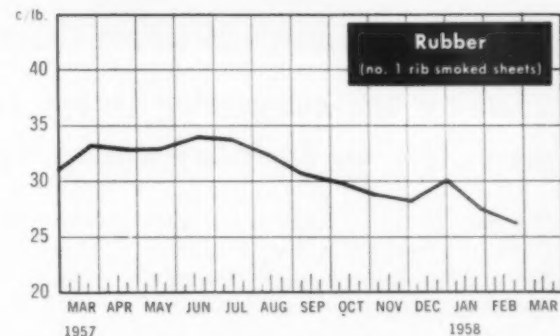
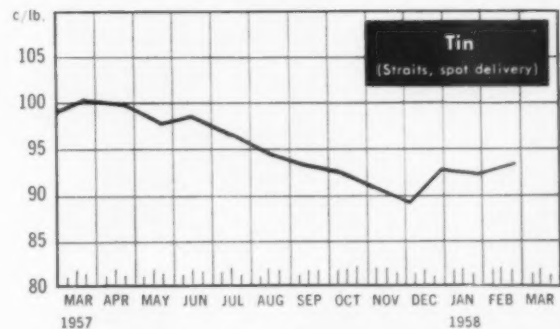
Aluminum Output Down

Indications are that February production of aluminum was lower than January's output of 139,909 tons. However, the industry is continuing its apparently contradictory moves of trimming production and stretching out its expansion program while continuing to bring new facilities into operation.

Steel scrap prices firmed up recently in most cities throughout the country. The higher price tags reflect a much stronger export market and slower collections. Cold weather and the low price of scrap were the factors behind the collection rate slowdown. Another reason: the anticipated higher steel production this month.

Tin prices have been irregular in recent weeks with only fractional changes. Currently on the rumor mill are reports that Malaya might withdraw from the International Tin Agreement and that the tin industry in Indonesia and Nigeria might be nationalized under union pressure.

Crude rubber moved slowly, including No. 1 ribbed smoked sheets. A major producer of antimony cut its price 4 cents a pound to 29 cents, marking its first price change in over two years. Platinum, too, weakened, due largely to the depressing effect of increased Russian output on the market.

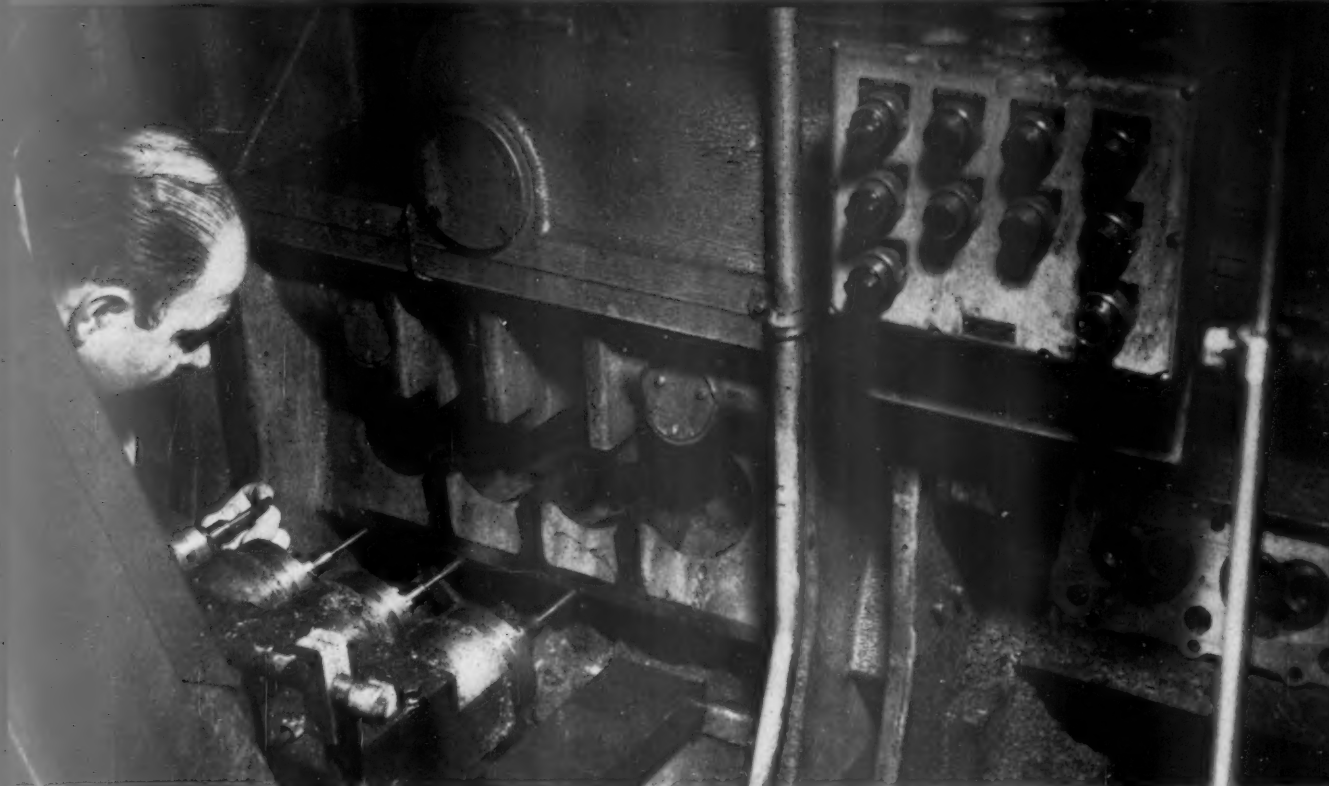


For More Information Write No. 164

on Inquiry Card—Page 32

MARCH 3, 1958

Chicago-Latrobe Carbide Bore Reamers help boost Rambler production



Reaming and chamfering in one trouble-free operation increases production on American Motors cylinder head line

Big news in the industry is the sales climb of American Motors' Rambler. At Rambler's Kenosha plant, the line is operating at capacity to meet demand.

Chicago-Latrobe Service Engineers work regularly with AM to get more and more production with greater precision into all their drilling and reaming operations. In the photo, four guide bushings are reamed and chamfered at one time—using Chi-

cago-Latrobe Carbide Bore Reamers. This unusual setup is saving time . . . keeping vital parts moving.

C-L tools for difficult drilling and reaming jobs may answer some production problem in your plant. Ask a Chicago-Latrobe distributor to bring in a C-L Service Engineer. Regardless of the size of your operation, he's at your disposal without cost or obligation.



CHICAGO-LATROBE

412 W. ONTARIO STREET, CHICAGO 10, ILLINOIS
ORDER THROUGH YOUR LOCAL C-L STOCKING DISTRIBUTOR

DRILLS • REAMERS • END MILLS • COUNTERSINKS • COUNTERBORES • CARBIDE TOOLS

The
Complete
Drill and
Reamer
Line



Pulse of Business

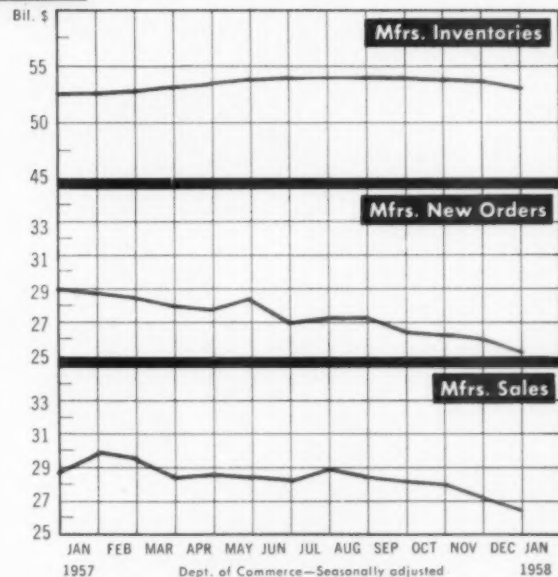
Sales, Inventories, Orders

● Unfilled Order Backlogs Are in Steep Decline

LATEST FIGURES show that manufacturers' unfilled orders have dropped another \$1 billion. This is important because unfilled orders relate directly to future production as opposed to sales which are, in effect, only shipments of goods already manufactured.

Behind the drop in unfilled orders is the fact that December sales, even though they dipped to their lowest rate of the year (\$26.4 billion), still exceeded new orders which totaled only \$25.3 billion. As a result, the unfilled order total is now down to \$51 billion a drop of \$13 billion since January 1957.

Overall, inventories, sales and new orders as well as unfilled orders were declining. The durable goods industries are still showing the severest slump with only the aircraft industry in that group indicating any signs of strength.



Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)

	1956		1957		1957	
	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
All manufacturing industries	28,480	28,846	28,215	28,064	r27,221	26,684
Durable-goods industries	14,294	14,526	14,132	13,932	r13,548	13,076
Primary metal	2,531	2,462	2,182	2,224	r2,156	2,069
Fabricated metal	1,487	1,418	1,547	1,535	r1,429	1,389
Machinery	4,189	4,241	4,314	4,265	r4,175	3,993
Transportation equipment	3,234	3,530	3,407	3,297	r3,255	3,134
Lumber and furniture	1,019	1,014	940	930	r850	867
Stone, clay, and glass	741	746	668	650	r659	636
Non-durable-goods industries	14,186	14,320	14,083	14,132	r13,673	13,608
Food and beverage	4,240	4,278	4,278	4,331	r4,257	4,312
Tobacco	337	372	378	356	r351	370
Textile	1,109	1,147	1,040	1,029	r1,025	1,008
Paper	888	868	932	917	r862	853
Chemical	1,940	1,936	1,951	2,002	r1,941	1,873
Petroleum and coal	2,763	2,786	2,803	2,895	r2,717	2,694
Rubber	462	474	481	490	431	n.a.

Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)

	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
All manufacturing industries	52,210	52,295	54,166	54,103	r53,871	53,573
Durable-goods industries	30,647	30,660	31,820	31,754	r31,511	31,222
Primary metal	3,891	3,975	4,344	4,356	r4,279	4,255
Fabricated metal	3,157	3,183	3,123	3,143	r3,095	3,078
Machinery	10,404	10,409	10,658	10,583	r10,517	10,386
Transportation equipment	7,714	7,630	8,049	7,979	r7,976	7,864
Lumber and furniture	1,895	1,869	1,877	1,880	r1,845	1,844
Stone, clay and glass	1,168	1,171	1,251	1,273	r1,274	1,274
Non-durable goods industries	21,563	21,635	22,346	22,349	r22,360	22,351
Food and beverage	4,814	4,799	4,684	4,725	r4,732	4,697
Tobacco	1,895	1,884	2,000	1,980	r1,965	1,949
Textile	2,674	2,713	2,631	2,625	r2,628	2,632
Paper	1,338	1,349	1,410	1,423	r1,417	1,439
Chemical	3,582	3,594	3,741	3,732	r3,763	3,826
Petroleum and coal	3,188	3,249	3,597	3,623	r3,657	3,613
Rubber	1,035	1,039	1,074	1,097	1,101	n.a.

Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)

	Nov.	Dec.	Sept.	Oct.	Nov.	Dec.
All manufacturing industries	29,972	29,005	26,565	26,226	r26,102	25,196
Durable-goods industries	15,776	14,543	12,519	12,154	r12,434	11,588
Non-durable-goods industries	14,196	14,462	14,046	14,072	r13,668	13,608

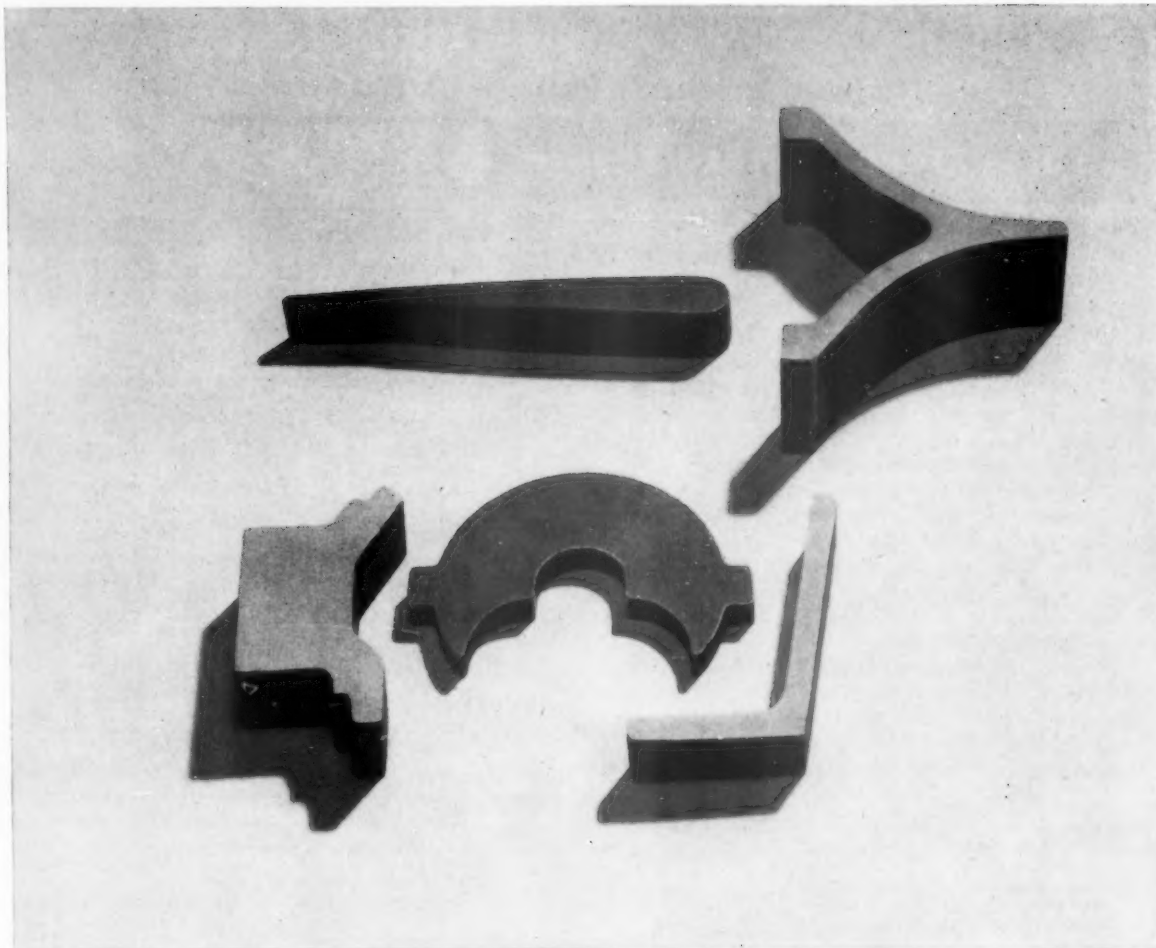
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n.a.—not available

For More Information Write No. 165

←on Inquiry Card—Page 32

MARCH 3, 1958



Intricate Allegheny Ludlum Steel Extrusions **cut material needs up to 60%, slash machining costs**



Write for this technical book on A-L Steel Extrusions

12-pages of design and engineering information on steel extrusions. Process and product explanation, material properties, design tips and limitations, tolerances, order instructions, etc.

Address Dept. P-3

There's no doubt about extruded shapes saving money on materials and on machining. Non-ferrous applications in the last decade have proven it.

Now even greater savings are possible with tough, strong metals in Allegheny Ludlum Hot Steel Extrusions.

Extruded shapes in all stainless grades, tool steels, carbon steels, electrical steels, high temperature alloys . . . even in zirconium, nickel alloys . . . are now in production at Allegheny Ludlum, cutting costs in many different industries.

If you're hogging out sections, paying for special mill rolls on small orders, or

waiting for minimum rolling mill tonnages, Allegheny Ludlum Steel Extrusions are your answer. They will save you scrap loss, slash your machining costs, hold down your inventory requirements and cut delivery time. Charge for die design is low—under \$200. Orders taken for as little as 40 pounds.

To learn more about the time and cost-cutting possibilities of Allegheny Ludlum Hot Steel Extrusions, send for the technical booklet at the left or call any A-L office for technical assistance.

Allegheny Ludlum Steel Corporation,
Oliver Bldg., Pittsburgh 22, Pa.

WSW 6907

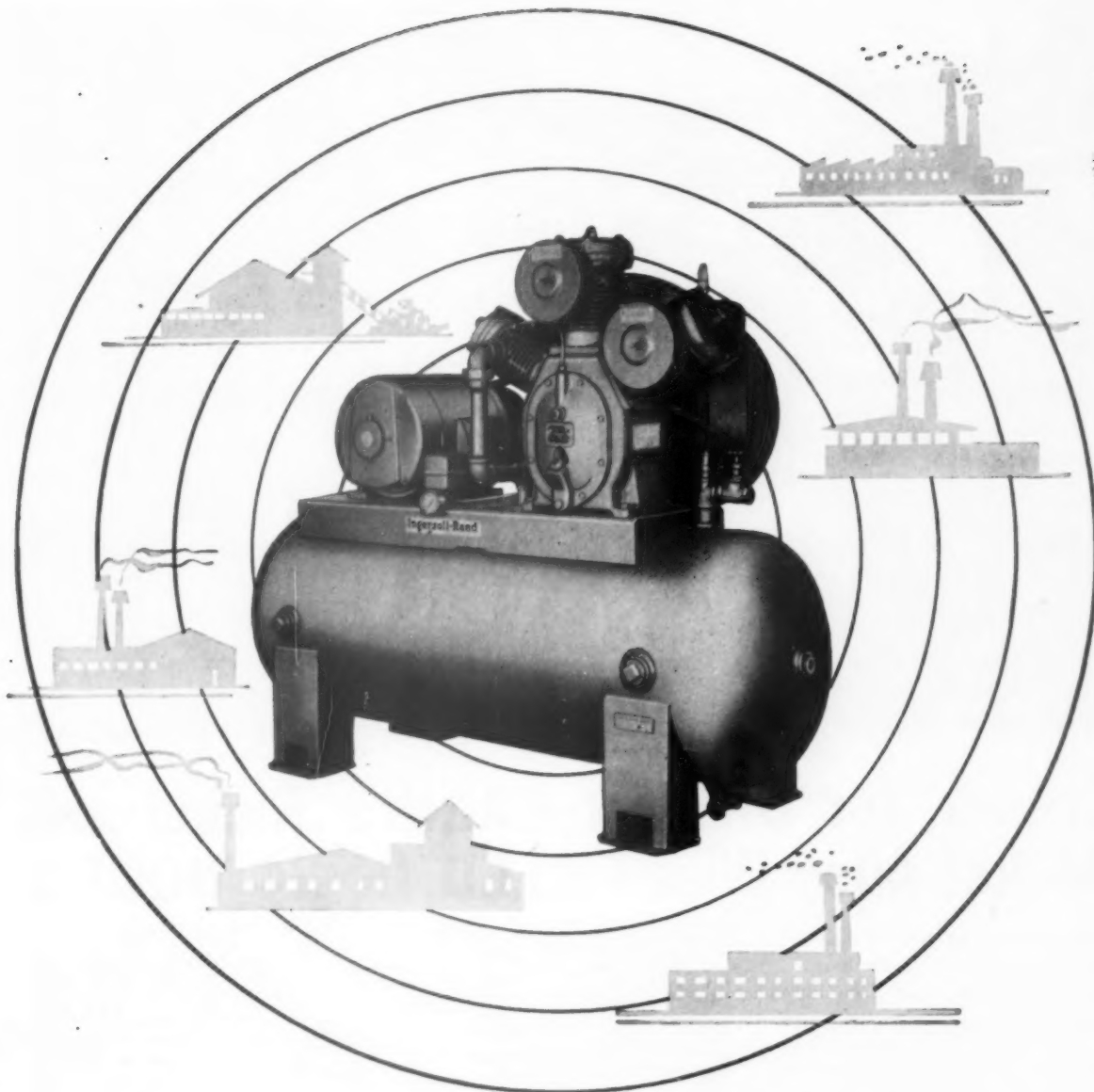


ALLEGHENY LUDLUM

for all your special steel needs

Stainless and high-temperature, electrical and tool steels, magnetic materials, and sintered carbide

For More Information Write No. 166 on Inquiry Card—Page 32



Your compressor equipment may amount to only a small part of your total plant worth... but could you operate profitably without a dependable source of compressed air?

Ingersoll-Rand packaged, air-cooled compressors in the $\frac{1}{2}$ through 20 horsepower range are designed and built for maximum performance with a minimum of maintenance. They are most suited for small plants or for off-peak requirements in large plants.

Let us tell you more about the best in air compressors.

*Air-cooled compressors to 125 horsepower—
other compressors to 6000 horsepower*

Ingersoll-Rand

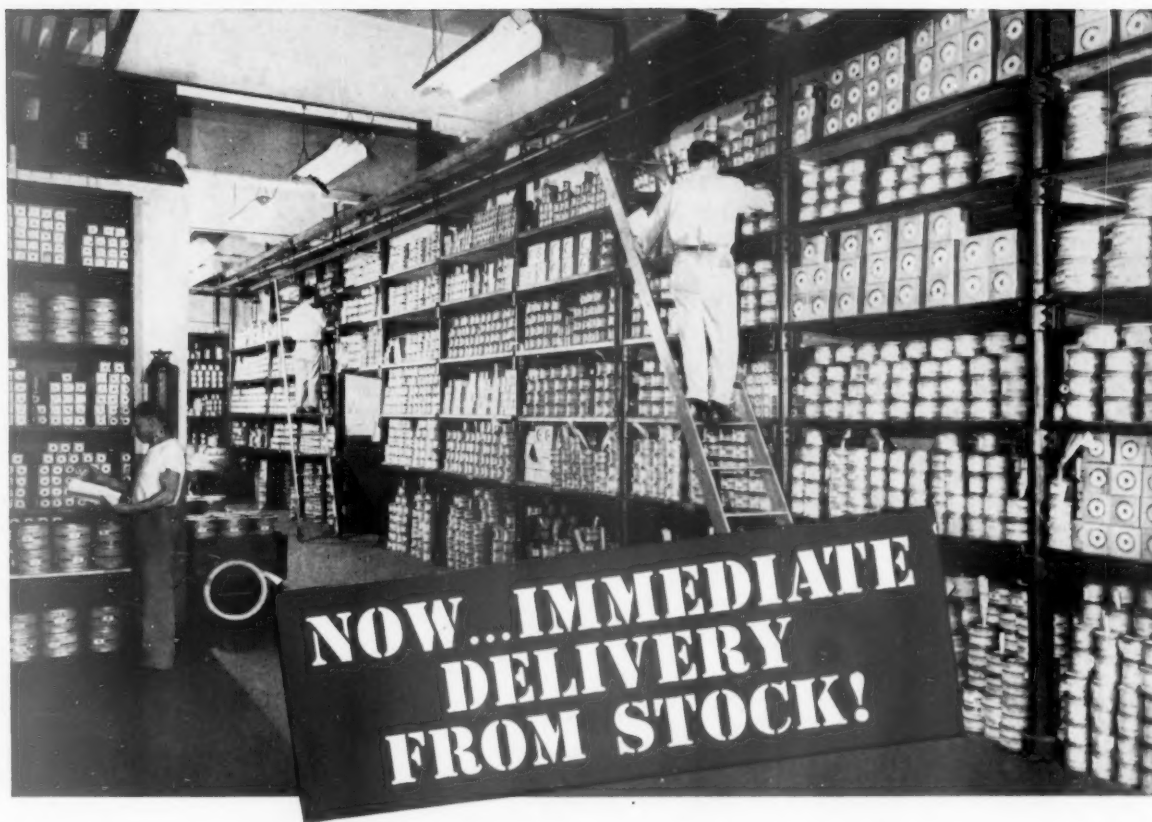
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For More Information Write No. 167 on Inquiry Card—Page 32

MARCH 3, 1958

3-500

23



Orders for DRIVER-HARRIS Nickel and Nickel Alloy Wire FILLED IN 24 HOURS

If we receive your order in the morning, it will be shipped out before evening . . . this is the new service policy of Driver-Harris in the manufacture and distribution of 18 most frequently purchased Nickel and Nickel Alloys in wire form. In addition to this new warehouse stocking program, is the improved delivery schedule for Monel, Grade "A" Nickel, Inconel, R Monel and some Stainless Steels with lead time reduced to only 7 days in certain cases. The following list covers immediate availabilities. For complete detailed current listing showing all sizes and specifications, contact the nearest Driver-Harris branch — or call HUMBOLDT 3-4800 (New Jersey), REctor 2-9579, 80, 81, 82 (New York City).

IN STOCK READY FOR DELIVERY

MONEL	25 wire sizes from .0021 to .091
GRADE "A" NICKEL	12 wire sizes from .0025 to .091
GRADE "D" NICKEL	9 wire sizes from .005 to .015
INCONEL	3 wire sizes from .0253 to .050

STAINLESS STEEL

Type 304	24 wire sizes from .0016 to .164
Type 316	6 wire sizes from .007 to .0135
Type 330	25 wire sizes from .0063 to .144
NICHROME*	65 wire sizes from .0007 to .289
NICHROME* V	62 wire sizes from .00045 to .289
CHROMAX*	35 wire sizes from .0031 to .258
KARMA*	36 wire sizes from .0005 to .036
ADVANCE*	49 wire sizes from .0008 to .258
MANGANIN	37 wire sizes from .001 to .1285
LOHM*	29 wire sizes from .001 to .182
MIDOHM*	28 wire sizes from .00175 to .182
30 ALLOY	28 wire sizes from .0015 to .182

LEAD TIME FOR MANUFACTURING WIRE & RIBBON

As low as 10 days for	
COLD DRAWN MONEL	wire sizes from .001 to .1875
GRADE "A" NICKEL	wire sizes from .001 to .1875
COLD DRAWN INCONEL	wire sizes from .001 to .1875
R MONEL	wire sizes from .0285 to .204

As low as 7 days for
STAINLESS STEEL wire and ribbon
Types: T-302, T-304, T-305, T-316; T-430, T-446



Driver-Harris Company

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Washington Report

"Administered Prices" Hearings Seeking Elusive Information

"ADMINISTERED PRICES" has become the battle cry of a group of legislators who feel that a loophole of major proportions has been opened in our anti-trust and monopoly regulations.

Specifically no laws are being broken. There is no evidence of collusion to fix prices. There is no concerted action by companies to establish higher prices. The question the Senators are asking is this: Why do the prices in major industries go up at the same time—and at the same rate?

This is what has been called "administered prices."

For the purchasing agent whose prime function it is to understand prices and price trends, the

hearings before the Senate Anti-Trust and Monopoly Subcommittee have intense interest.

In essence, here's what the hearings have disclosed to date:

1. Wage increases have injected higher cost factors. At the same time, companies with wide profit margins have advanced prices at the same rate as have companies in the same field with lesser profit margins.

2. Independents with no pressure or suggestions from other companies in their industry have increased their prices at the same rate as have the leaders.

Senate members of the anti-monopoly subcommittee, with two exceptions, are strong for strict

government regulation of anti-trust. Their quandary is how to go about it. There is a real question as to what kind of law can be drawn that can become a positive force in creating price competition.

Committee hearings will likely continue for much of the present session. This means that no basic anti-trust legislation will come in the current Congress.

Justify Price Hikes

Look for an effort on the part of some of the subcommittee members to push legislation that would require a company to post notice of intention to increase prices, with a declaration of justification for such an increase.

Senator Joseph C. O'Mahoney (R-Wyo.) sponsored such legislation ten years ago and he is a member of the anti-trust subcommittee.

Chairman of the subcommittee, Senator Estes Kefauver (D-Tenn.), is an ardent anti-truster—so is Senator John Carroll (D-Colo.). Senators William Langer (R-N.D.) and Thomas C. Hennings (D-Mo.) are also in favor of vigorous anti-trust action.

Against such action is Senator Everett M. Dirksen (R-Ill.). Senator Alexander Wiley (R-Wisc.) has been noncommittal.

With such a line-up, you can see that some tightening up of anti-trust will be favored. But those who want to do the tightening still don't know what to do and how to do it.

● Renegotiation Act Renewal Slated

THE RENEGOTIATION Act expires at the end of this year unless Congress renews it. President Eisenhower wants it, says it is needed to "hold procurement costs to a minimum."

Industry spokesmen — specifically for the aircraft industry—



Staff photo

Getting ready to grill autodom's top brass at the Senate Antitrust and Monopoly subcommittee's hearings on "administered prices" are Committee Counsel Dixon and Senators Kefauver, Goldwater and Dirksen.

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The sign of the Quaker State Aluminum Giant is becoming more and more familiar with ever-increasing users of quality Aluminum. In practically every field... building supplies, sporting goods, appliances, furniture, toys, wherever Aluminum is used, the call is to Quaker State.

THE REASON IS SERVICE

Quaker State's Mill is geared to handle your order on a personal basis. Regardless of the size of your order—large or small—you get fast, accurate, dependable delivery. Quaker State is versatile—whether you want coil, sheet or tubing; mill, embossed or anodized finish—you're sure to get it and in the gauges and widths you need.

11 Centrally Located Branch Offices
to Cater to Your Needs

QUAKER STATE METALS COMPANY

Mill Producers of Aluminum Sheet—Coil—Tubing and
Building Products in Mill, Embossed and Anodized Finishes



Lancaster, Penna.

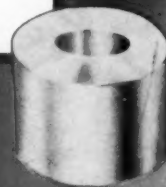
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Washington Report

say "let it die, it kills incentive." Observers who like to take a reading of Congress and forecast what they are likely to do say "It's up for grabs, with a 50-50 chance that the Renegotiation Act may go out the window."

On the other hand, spokesmen for the Renegotiation Board, in a forecast for *PURCHASING Magazine*, point out that it is either the Renegotiation Act or "some other form of retrospective examination of contracts." Their view is that Congress will not stand for lifting restrictions on defense contracts as long as "defense takes more than 50 per cent of the government budget."

Draft legislation was being reviewed by various government agencies as this report went to press, and a bill to continue the Renegotiation Act will shortly be introduced in the Congress.

Summary view is that industry will kick up a fuss against the Renegotiation Act. But when the chips are down, if industry has to take renegotiation or return to the Vinson-Trammell Act—which puts a specific limit on profits on a contract-to-contract basis—it will throw its reluctant choice to renegotiation.

● D-O and D-X Ratings Still Significant

FOR *PURCHASING* agents concerned with buying for a military or AEC end-product, the D-O and D-X ratings still have significance.

Priorities and Directives staff of Business & Defense Services Administration (BDSA), who are in charge of trouble shooting when priorities fail, report that during the last two months there were fewer problems of getting delivery on priority than in any period since before Korea.

The D-O ratings are still being used by the military, and some additional ballistics missile projects have been brought under the D-X rating (Polaris was recently given the D-X super priority rating, accorded previously

to Atlas, Thor and Jupiter).

As a practical matter, the priority ratings are now most effective when newly developed electronic gear is required. Where such gear is not in full production—possibly even in experimental phases—a D-X rating is needed to get delivery of the gear.

During the last six to eight months, there has been an overall shortage of capacitors. This is now easing, but the entire production has been scheduled.

In materials, there still is occasional tightness in supply, as for example T-1 steel alloy, which is in demand for pressure vessels.

Priorities staff personnel point out for purchasing agents that in the next month or two they expect the large volume of new contracts by the Department of Defense will tend to increase the volume of priority paper floating across the P.A.'s desk.

● More Employment, Buying in Spring?

MARCH-APRIL are the critical months in measuring the extent of recession. Government agencies and Congress are watching the weeks just ahead to discover whether the spring lift in employment and business will be enough to turn the tide.

Factors that will change the picture include the beginning of large-scale outdoor employment—such as offered by the construction industry, for instance.

Question is whether the plus factors which have been injected into the economy—increased government buying, cheap credit, step-up in public works—will be enough of a stimulant. What is wanted is a quick upturn in employment and a sharp increase in buying.

If the upturn takes place, government will back off and give industry its head. If not, the pressures will mount for some direct stimulus to consumer buying.

In the last few weeks, sentiment for a tax cut has been mounting. Idea is that an additional \$50 or so in the pockets of



Parts used in the General Electric Watch Dog* Starter.

G-E quality in starter parts makes the big difference!

General Electric "know how" and careful attention given to the design, material, shape, fit and uniformity of each part in its starters contributes to the elimination of maintenance problems in fluorescent lighting systems.

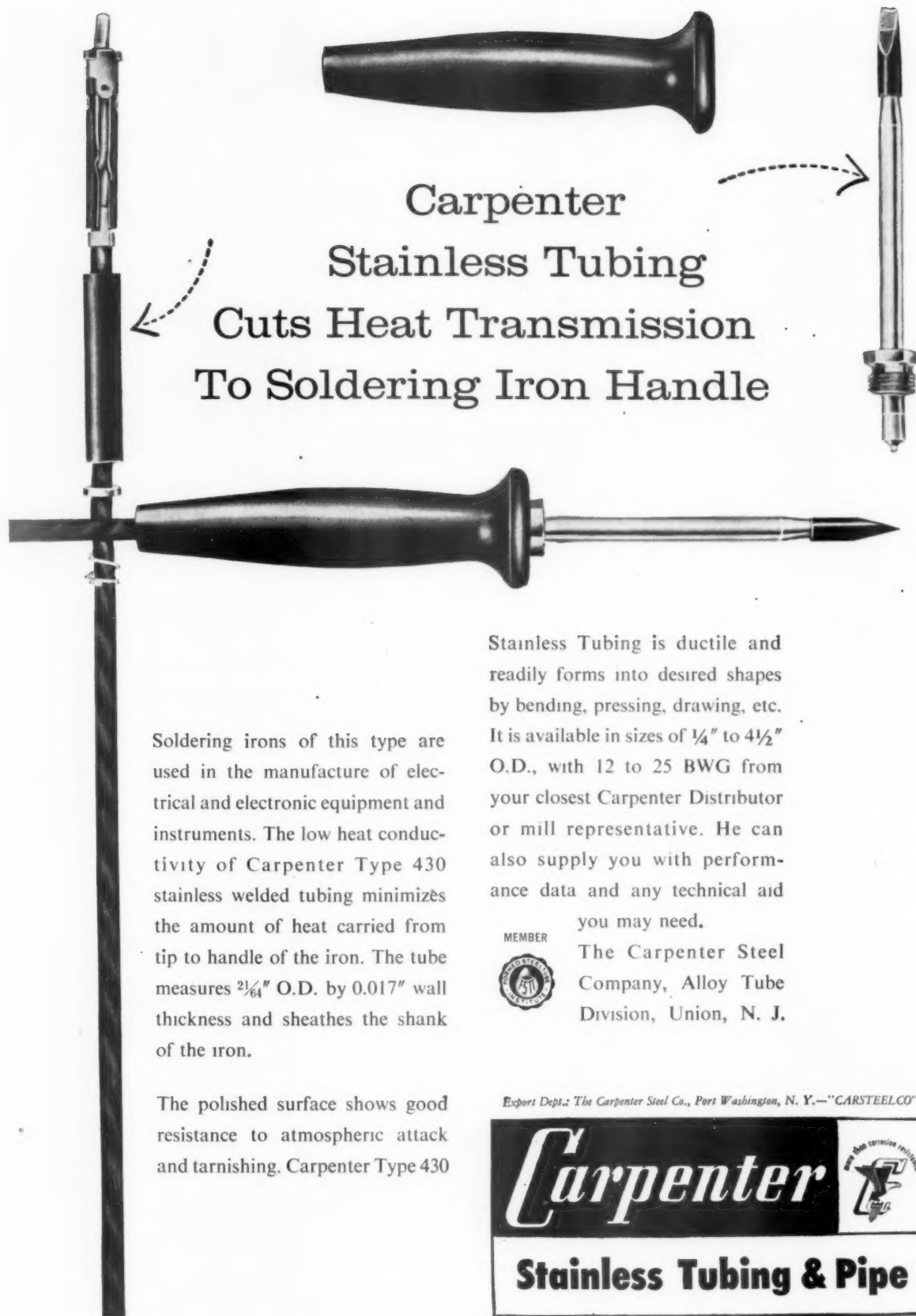
G-E Watch Dog* starters prevent blinking and prolong ballast life by cutting off current to worn-out lamps. They last up to 10 times longer than ordinary starters. Watch Dog manual-reset buttons eliminate "waiting time" during relamping.

General Electric offers *standard* and *automatic* reset starters, too . . . all packaged in easy-stocking "window" cartons . . . all assuring dependable starting and long life. Starters are little things that make such a *big* difference . . . why not use the *best*! General Electric Company, Wiring Device Department, Providence 7, R. I.

*Registered Trade-mark of General Electric Co.

GENERAL ELECTRIC

For More Information Write No. 170
on Inquiry Card—Page 32




Carpenter Stainless Tubing

Cuts Heat Transmission To Soldering Iron Handle

Soldering irons of this type are used in the manufacture of electrical and electronic equipment and instruments. The low heat conductivity of Carpenter Type 430 stainless welded tubing minimizes the amount of heat carried from tip to handle of the iron. The tube measures $\frac{2}{64}$ " O.D. by 0.017" wall thickness and sheathes the shank of the iron.

The polished surface shows good resistance to atmospheric attack and tarnishing. Carpenter Type 430

Stainless Tubing is ductile and readily forms into desired shapes by bending, pressing, drawing, etc. It is available in sizes of $\frac{1}{4}$ " to $4\frac{1}{2}$ " O.D., with 12 to 25 BWG from your closest Carpenter Distributor or mill representative. He can also supply you with performance data and any technical aid you may need.

MEMBER

 The Carpenter Steel Company, Alloy Tube Division, Union, N. J.

Export Dept.: The Carpenter Steel Co., Port Washington, N. Y.—"CARSTEELCO"



Stainless Tubing & Pipe

Washington Report

each taxpayer would give business a quick shot in the arm.

This would certainly mean deficit financing as far as the government budget is concerned. Speculation is that taxes won't yield as much as President Eisenhower projected in his budget, and that the budget as it stands will be unbalanced.

To such a deficit would have to be added a good part of whatever tax cut is granted—and this would really add up to a sizable minus figure.

Given the choice between a sizable budget deficit or excessive unemployment, guess is Congress will vote for deficit spending.

● No Evidence Of Distress Selling

DISTRESS SELLING has not shown up in the market place, according to Federal Reserve Board officials who have been taking a reading on economic developments.

Prices as shown by the various BLS price indices—wholesale and cost-of-living—have shown little give.

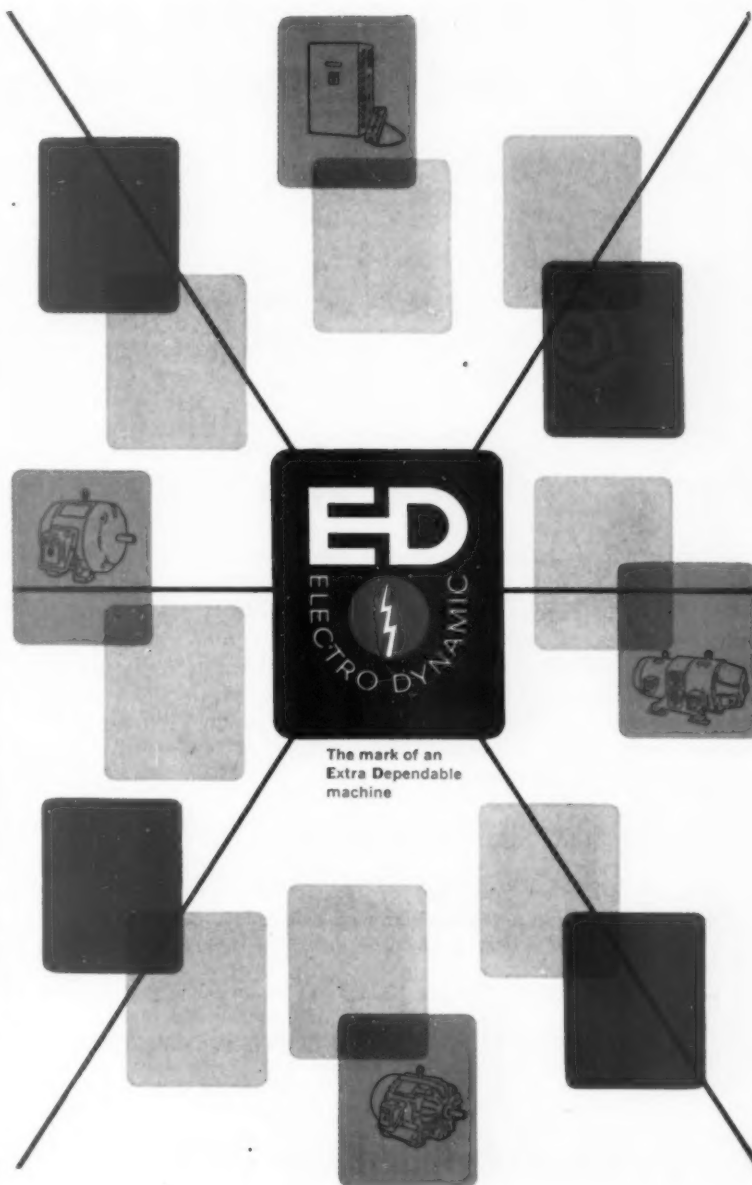
Only way to measure distress selling is by direct contact in the market place. Various branches of the Federal Reserve System have a close contact with regional business trends, and report that while there have been rumors of some distress selling, they have not been able to put their finger on specific instances.

● \$182 Million Cost Of New Freight Hike

PAYOUT FOR railroad freight will increase by \$182 million a year as a result of the two per cent selective commodity freight rise granted the rails by the Interstate Commerce Commission.

The freight increase ordered last month was the fifteenth in the post-World War II period. These raises total approximately 110 per cent.—A. N. Weckler

MARCH 3, 1958



The mark of an
Extra Dependable
machine

What this symbol means

Like the brand name on other quality products you buy, the E.D. symbol on your electric motors means "The Best".

You know also that there is an E.D. expert nearby whenever you need him. Electro Dynamic's broad network of offices includes a chain of over 25 warehouses set up across the country to provide utmost speed of delivery to you.

Complete line of a.c. and d.c. motors from 1 to 300 h.p., Geared Motors, Selectrol and Selectron Variable Speed Drives and Motor Generator sets.

Telephone or write for Bulletin 50-A.



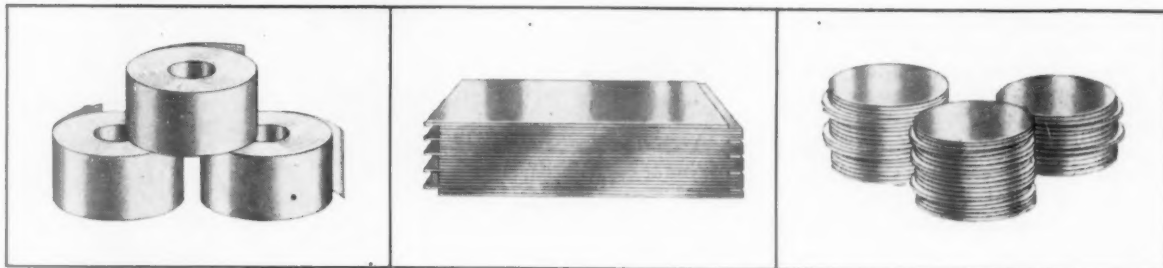
ELECTRO DYNAMIC
DIVISION OF GENERAL DYNAMICS
CORPORATION



BAYONNE, NEW JERSEY

For More Information Write No. 172 on Inquiry Card—Page 32

If you use aluminum sheet in any form,
specify **Fairmont** to get the maximum



Deep-Drawing Superiority • Versatility • Utility!

Fairmont wrought aluminum sheet not only meets the standards but exceeds them in mechanical qualifications. Excellent drawing quality, superior finishing and non-earing properties (vitally important to the manufacturer but not definitively qualified in the specification standards) are outstanding examples of Fairmont's superiority. Close adherence to required gauge tolerances is vitally important, since aluminum is bought on a poundage basis.

It is important to you, the purchaser, that every alloy Fairmont makes is rolled every working day.

This affords customers less lead time between ordering and shipment—helps keep inventories low, reducing investment in floor space and work in process. It permits fabricators' change orders to be executed rapidly and economically, if necessary.

And Fairmont's personal attention to orders, both large and small, guarantees maximum satisfaction.



Let us put a copy of Fairmont's latest technical bulletin in your hands. Write or call today.

Sales Offices in Principal Cities

Fairmont Aluminum Company

Subsidiary of Cerro de Pasco Corporation
Dept. U-1 • Fairmont, West Virginia



DoALL Tool and Die Steel has the better finish

There is none
FINER
and
it costs
NO MORE!



DoALL Tool and Die Steel is precision-checked for a 25 micro-inch RMS finish or better.

Compare the Finish . . .
Compare the Analysis
STANDARDIZE ON DoALL

Air Hardening Tough Abrasive Jobs SAE Type A2	Oil Hardening Proven Analysis SAE Type O1
Carbon 1.00%	Carbon 0.90%
Manganese . . . 0.50%	Manganese . . 1.20%
Chromium 5.00%	Silicon 0.30%
Molybdenum . . 1.25%	Tungsten . . . 0.50%
Vanadium 0.30%	Chromium . . . 0.50%
	Vanadium . . . 0.20%



THIS IS A
TYPICAL DoALL STORE

Here Is Surface Finish That SAVES You TIME and MONEY

No need to penalize yourself with the extra costs and troubles of surface-grinding your tool and die steel—when DoALL does it for you at no extra cost!

All DoALL precision-ground tool and die steel is checked for a 25 micro-inch RMS finish or better!

This job-ready finish can cut your tool, die, gage and fixture costs at least 15% by doing away with all surface-grinding at your end. No chance for grinding spoilage, either. No waste.

Having more than better surface finish, DoALL Tool and Die Steel also rewards you with precise dimensional accuracy. Size is accurate to $\pm .001$ thickness, $\pm .005$ -.000 width, with squareness edge to surface .003 per inch of thickness.

Additional DoALL Benefits

- ✓ Scheduling is speeded—just ink it, mark it, cut it, use it!
- ✓ Machining is easier—saws to any shape on a band machine!
- ✓ Heat-treating is simpler—it's non-

deforming and distortion-resistant!

- ✓ Delivery is faster—over 1500 standard sizes stocked and ready. Prompt delivery on special sizes—all handy through your local DoALL Sales-Service Store.

Stocked by friendly DoALL Sales-Service Stores in 38 cities. See your classified directory.

FREE GUIDE CHART GIVES 1576 STANDARD SIZES!

A valuable toolroom aid, complete listing of all standard sizes of air and oil hardening precision-ground DoALL Tool and Die Steels is conveniently given on this easily read wall chart. Send for yours now.



TS-17

The **DoALL** Company
Des Plaines, Ill.

Gallo wine



MORE BOTTLES IN SAME WAREHOUSE! Filled wine bottles get a smooth, high lift on Yale K51W Trucks. Full use of air rights boosts warehouse capacity for Gallo—8,000 more bottles!

boosts production, slashes handling costs with **YALE K51W ELECTRIC TRUCKS**

speeds empties in—speeds cases out!

Gallo's winery at Modesto, Calif. is one of the nation's largest. Here, 32 different types of wines are produced, bottled and shipped. With production steadily increasing, Gallo management faced a common problem: outmoded, obsolete equipment—unable to handle soaring output. For a solution, Gallo called in Yale engineers. Together, they came up with a new handling system that has produced amazing results.

Today, a fleet of new, heavy-duty Yale K51W Electric Trucks unloads thousands of empty-bottles a day—feeds them to 6 non-stop bottling lines. Every day these same trucks stack hundreds of full cases in warehouses and load them onto trucks and rail for shipment. Result: fast-cycle operations — big savings in storage space — handling costs at an all time low! Here's why:

Yale K51W is fast! Travels up to 6½ m.p.h. Lifts full 50 ft. a minute.

Yale K51W is short! Only 68¼" from front face of forks. Compactness makes fast maneuvering easy, lets you trim warehouse aisles for extra storage space.

Yale K51W is safe! Excellent operator visibility. Maximum stability. Dead-man control.

Yale K51W is easy to drive! Full forward visibility. Special inching control. Exclusive Yale magnetic Cam-O-Tactor for controlled acceleration. High-capacity battery for 8-hour operation without recharging.

Learn how you can cut handling costs with the 3,000-4,000 lb. capacity Yale K51W Electric Truck or, send for information on any of the broad line of Yale Industrial Lift Trucks — Gasoline, Electric, LP-Gas, Worksavers, Warehouseers, Hand Trucks. Wide range of capacities. Write The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-253.



THIS IS MANEUVERABILITY! Short Yale K51W works at top speed in aisles less than 10 feet wide. 15° tilt-back improves maneuverability and speeds up operation.



FAST SHUTTLE! Yale K51W unloads this trailer truck in only 12 trips. Takes empties directly to bottling lines to meet tight production schedules.

YALE*

*REG. U.S. PAT. OFF.

YALE & TOWNE

INDUSTRIAL LIFT TRUCKS AND HOISTS

GASOLINE, ELECTRIC, DIESEL & LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSEERS • HAND TRUCKS • HAND AND ELECTRIC HOISTS

YALE MATERIALS HANDLING DIVISION, THE YALE & TOWNE MANUFACTURING CO. MANUFACTURING PLANTS: PHILADELPHIA, PA.; SAN LEANDRO, CALIF.; FORREST CITY, ARK.

For More Information Write No. 175 on Inquiry Card—Page 32

WATCH FOR THE VALUE ANALYSIS IN ACTION EDITION OF PURCHASING MAGAZINE May 12, 1958

This edition will contain important information on . . .

HOW Value Analysis is applied in a small purchasing department.
HOW Value Analysis training can be made to yield spectacular results.

HOW Value Analysis promotes teamwork between purchasing and engineering.

HOW Value Analysis becomes an integral part of the Materials Management Program.

HOW Value Analysis is applied to small quantity purchases.

HOW to determine the real economics of hiring a full-time analyst.

HOW a Value Analysis committee can be organized to get results.

Also. . . HOW Value Analysis works in the process industries.

AND. . . for the first time. . . there will be important information on. . .

PRE-PRODUCTION **P**URCHASE **A**NALYSIS . . . what it is . . . how it works . . . how to use it in your own department.

IN ADDITION . . .

this special edition will include about 500 actual case histories of audited savings. . . classified for easy reference into eight complete sections as follows:

Materials

Component Parts

Production Tools

Electrical Equipment

Materials Handling

Packaging and Supplies

Office Equipment and Supplies

MRO and Safety

You'll want to read and save the Value Analysis in Action edition of PURCHASING Magazine . . . published May 12, 1958.

Order your extra copies NOW! . . . at the special price of \$1.00 per copy. Regular price for this edition will be \$1.50 per copy. Order NOW and save 33.3 percent.

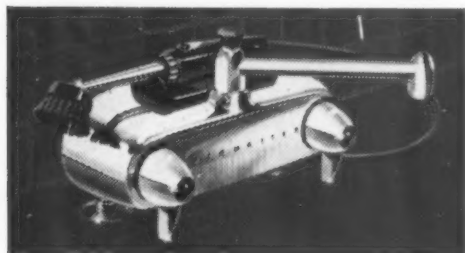
A Conover-Mast Publication • 205 East 42nd Street, New York 17, N. Y.

FACT: *Copper and Brass . . . today's best metal bargains!*

Competitive analysis of metal costs in manufacturing "Dishmaster" dish washer device switched manufacturer back to brighter, more attractive brass and away from plated steel and other substitutes.



PROOF: *Manville Manufacturing switches back to Brass for a better product at lower cost . . . drops steel!*



The "Dishmaster" made by Manville Manufacturing Co. of Pontiac, Michigan, includes many small parts again being made of brass. Direct comparison of costs with cadmium-plated steel showed that brass was once again the bargain buy in metal. For example, cost of the retaining ring shown here was reduced \$11.50 per thousand when the manufacturer switched back to brass! Comparable component savings are being made all down the line! (Based on October '57 costs of brass vs. steel.)

Chase

BRASS & COPPER CO.

WATERBURY 20, CONNECTICUT
SUBSIDIARY OF KENNECOTT COPPER CORPORATION

There's no excuse for using substitutes for copper and brass; the genuine article is today's best bargain in metals! Your nearest Chase man can show you specifically how Chase alloys—made of Kennecott copper—can fit into your production picture. Contact Chase locally or at Waterbury 20, Connecticut.

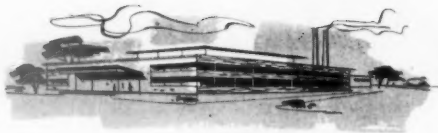
The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L.I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

For More Information Write No. 176 on Inquiry Card—Page 32

MARCH 3, 1958

35



No Two Plants are alike...

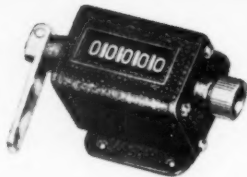


but all
can count on
VEEDER-ROOT

Sure, everybody's manufacturing problems are "different." But when these problems involve mechanical or electrical *Countrol*, they can *all* get the right answer from the same man . . . the Veeder-Root Distributor.

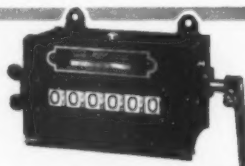


You will find that this man is tops in his field. He knows industry, and he knows how to adapt and apply standard Veeder-Root Counters to all types of production machines and processes, to give you exactly the facts-in-figures you need. If it's a question of quality, volume, cost inventory, production, wage or incentive payment, remember that *you're never sure unless you count*. And remember that the man you can always count on is your Veeder-Root Distributor. If you don't know who he is, just drop a line to D. G. Dresser, Veeder-Root Inc., Hartford 2, Conn.



SMALL RESET COUNTER

A compact, rugged reset counter for moderate duty in parts inspection, quality control, conveyors, machine tools, light presses, etc.
Dimensions: $1\frac{1}{4}$ " long, $1\frac{1}{8}$ " high, $1\frac{1}{16}$ " wide.
Speed: Up to 1000 counts per minute.



BOX-TYPE RESET COUNTER

For punch press installations, conveyors, metal-working equipment, die casting, plastic-molding, rivet, spring and wire machining, or any installation requiring a heavy duty counter.
Dimensions: $4\frac{1}{4}$ " long, $2\frac{1}{2}$ " high, $3\frac{1}{8}$ " wide.
Speed: 500 counts per minute.

RESET MAGNETIC COUNTER

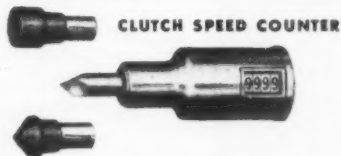


For remote indication of machine operation from plant to office.
Dimensions: $3\frac{1}{16}$ " long, $2\frac{1}{2}$ " high, $1\frac{1}{8}$ " wide.
Speed: Up to 1000 counts per minute.
Coils: 110V-AC are standard. Other voltages are available. Panel mounting feature also available.



**HAND
TALLY**

For quick spot-checks of production or performance.
Dimensions: $1\frac{1}{4}$ " long (to end of reset knob), $1\frac{1}{4}$ " deep, 2" high.
Counts one for each depression of the thumb lever, and resets to zero by a turn of the knob.



CLUTCH SPEED COUNTER

For checking to make sure that the machine is operating at the required R.P.M.
Dimensions: $3\frac{1}{4}$ " long, $\frac{1}{8}$ " max. diameter. Non-Reset.
Internal clutch operates counter only when rubber tip is pressed against the shaft.

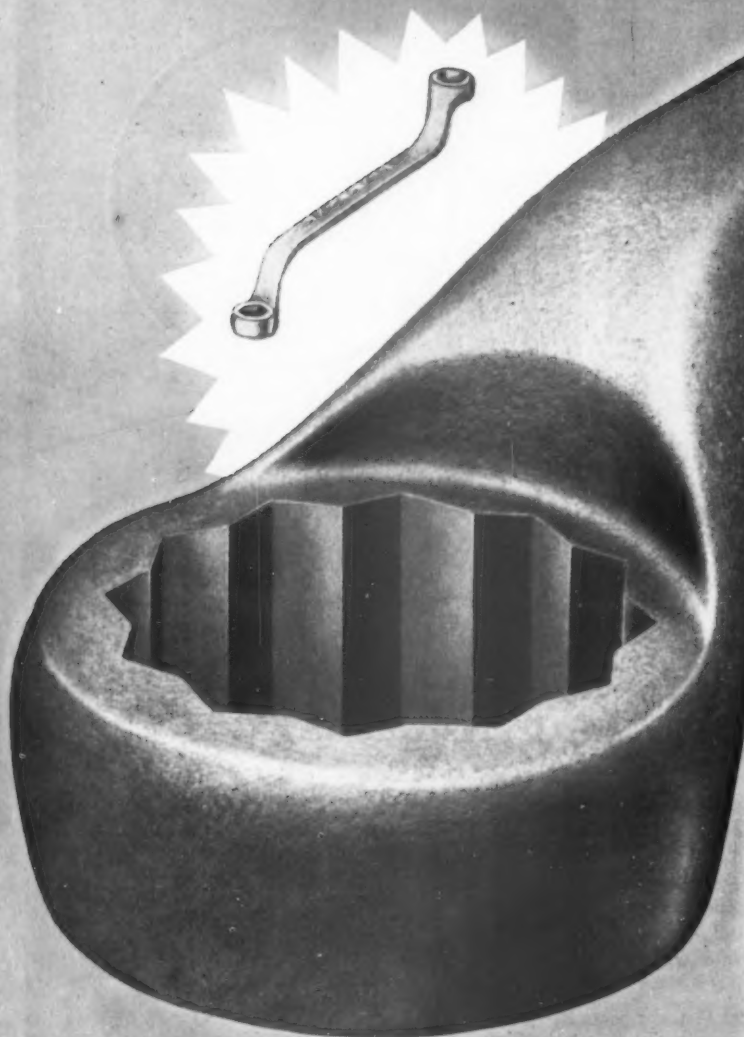
Everyone can count on
VEEDER-ROOT
"The Name that Counts"



Hartford, Conn. • Greenville, S. C.
Chicago • New York • Los Angeles
San Francisco • Montreal
Offices and Agents in Principal Cities

From Midget to Monster

WILLIAMS WRENCHES fit the job*



In scale comparative illustration — Actual openings: Midget $\frac{3}{16}$ ", Monster $3\frac{1}{8}$ ".

*Over 95% of your wrench requirements are stock items in THE BROADEST LINE OF ITS KIND.

WILLIAMS
DROP
FORGED

TOOLS OF INDUSTRY

ALLOY WRENCHES



A complete selection from 33 patterns, 400 sizes with openings from $\frac{3}{16}$ " to $3\frac{1}{8}$ ". Drop-forged from selected alloy steel and heat-treated for maximum service. Quality chrome plated finish.

CARBON WRENCHES



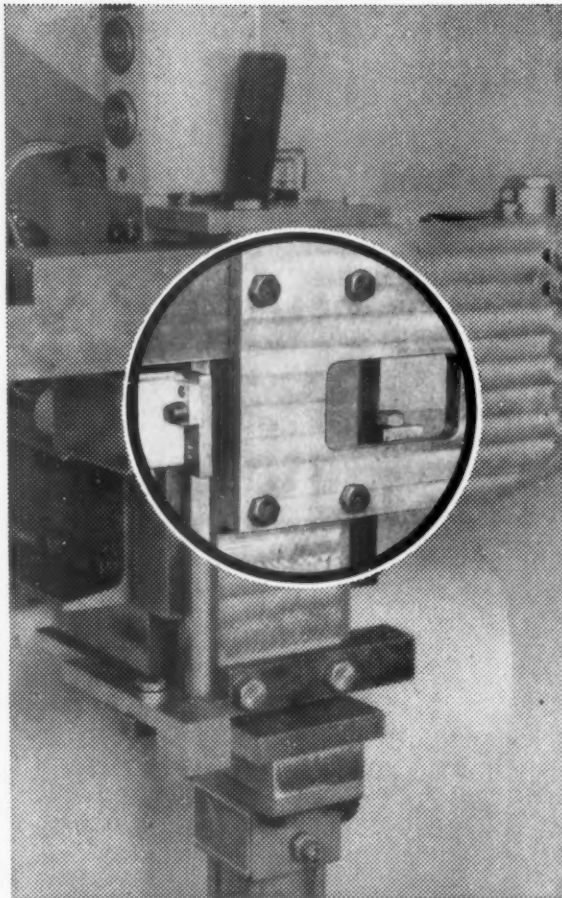
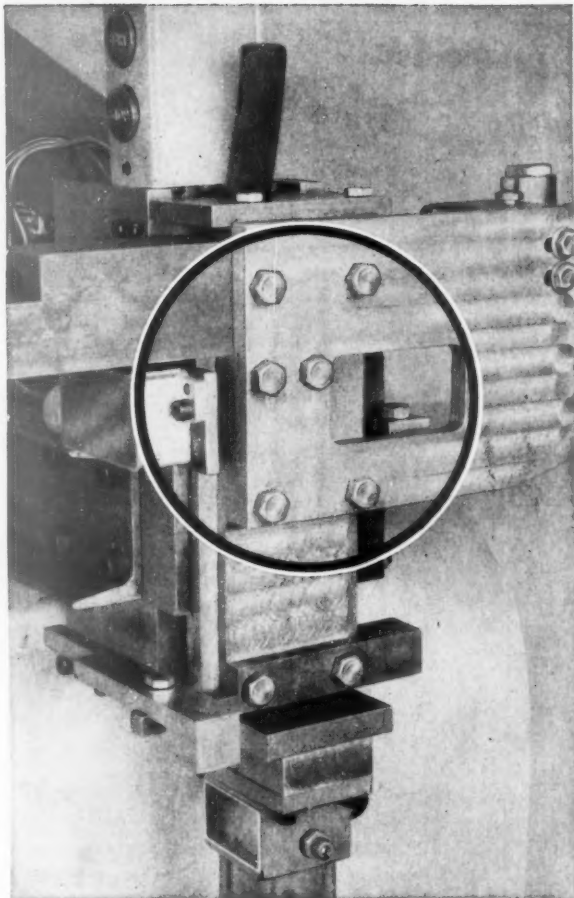
From a tiny $2\frac{1}{2}$ " to a giant 52 inches long — there are 29 patterns, 542 sizes with openings from $\frac{3}{16}$ " to $7\frac{5}{8}$ ". Correctly designed, they are made from selected carbon steel drop-forged and heat-treated for extra strength. Finish is black enamel.

FOR PROMPT,
PERSONAL
SERVICE



CALL YOUR
LOCAL
DISTRIBUTOR

J. H. WILLIAMS & CO.
404 VULCAN STREET
BUFFALO 7, NEW YORK



Cuts fastener costs 37% with CHICAGO heat-treated cap screws

Six $\frac{3}{8}$ " bright cap screws were being used for the support plate assembly of this automatic transfer mechanism. CHICAGO's fastener specialists showed four $\frac{5}{16}$ " heat-treated cap screws would do the job more efficiently—eliminating two fasteners and substituting a smaller size.

Using heat-treated cap screws here cut total fastener costs 37%! And in eliminating two extra fasteners, important additional savings were made by reducing machining and assembly time.

It will pay you to investigate savings for your products with these stronger fasteners. In addition to their greater strength, CHICAGO heat-treated cap screws provide extra advantages of Carbon Restoration—the special, scientifically controlled process which assures superior resistance to fatigue, wear, shock, and vibration.

Your CHICAGO distributor carries large stocks of heat-treated cap screws. And he will gladly arrange a study of your particular application by our fastener specialists. Call him today.



THE CHICAGO SCREW COMPANY

ESTABLISHED 1872 • DIVISION OF STANDARD SCREW COMPANY

2701 WASHINGTON BOULEVARD, BELLWOOD, ILLINOIS

For More Information Write No. 179 on Inquiry Card—Page 32



ACTUATE

**MORE EASILY...
EFFICIENTLY...
ECONOMICALLY**

ROLLED THREAD

SAGINAW b/b SCREWS

Make Your Product

- ➔ **easier to produce**
- ➔ **easier to operate**
- ➔ **easier to sell**

The secret lies in a new anti-friction principle—steel balls recirculating in closed-circuit raceways. They permit Saginaw b/b Screws to change rotary motion into linear motion with over 90% efficiency and 4/5 less torque than Acme screws. Result: Saginaw b/b Screws save manual effort or electrical power; they permit space savings—smaller motors and gear boxes; they provide more dependable performance; more precise positioning; more temperature tolerance and more lubrication latitude.

SEVEN STANDARD SIZES REDUCE COSTS

Top-quality Saginaw b/b Screws are the only kind stocked in seven standard commercial rolled thread sizes, cut to desired length, for low cost and fast delivery. Or you can order custom machined screws for critical or extreme precision applications. Saginaw has successfully built screws from 1½ inches to 39½ feet long—¾ inches to 10 inches diameter.

MANY TYPICAL APPLICATIONS

Saginaw b/b Screws have been applied to automatic garage doors, automobile seat adjusters and window lifts, barber chairs, hospital beds, bumper jacks and circuit breakers. Or they can be used for heavy industry equipment like die table positioners, drill presses, lift trucks and welders.

FREE ENGINEERING HELP FOR YOUR SPECIAL APPLICATION

Let Saginaw's experienced engineers help solve your special application problems. Just write or phone us—no obligation.

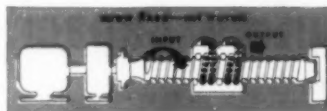


SAGINAW STEERING GEAR DIV., GENERAL MOTORS CORP., SAGINAW, MICH.



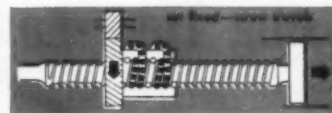
Automatic Garage Door lifts and lowers easily and smoothly when actuated by Saginaw b/b Rolled Thread Screw.

HOW THE WORLD'S MOST EFFICIENT ROTO-LINEAR DEVICE WORKS



When rotary motion is applied to the screw, the b/b nut is driven along the axis of the screw, changing rotary motion to linear motion with over 90% efficiency.

When rotary motion is applied to the b/b nut, the screw is driven along its longitudinal axis, changing rotary motion to linear motion with over 90% efficiency.



SEND TODAY FOR FREE 1958 ENGINEERING DATA BOOK
or see our section in Sweet's Product Design File

Saginaw Steering Gear Division
General Motors Corporation
 b/b Screw and Spline Operation
Dept. 5P, Saginaw, Michigan



Please send new engineering data book on Saginaw b/b Screws and Splines to:

NAME _____
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Announcing

another outstanding development
soon to be available by the
makers of **BUSS FUSES**

FUSETRON

LOW-PEAK

FUSES

Have
CURRENT LIMITING
added to
High Interrupting Capacity
and
Long Time-Lag



Made in all standard sizes above 60 amperes

FUSETRON Low-Peak Fuses are made in all standard sizes above 60 amperes—both 250 and 600 volt ranges.

In 60 amperes and smaller sizes tests show that FUSETRON dual-element fuses have sufficient current limitation to protect circuit and components in all normal cases.



Now you can have a high degree of protection against the thermal and mechanical stresses that heavy fault currents often impose on switches or other circuit components.

FUSETRON Low-Peak Fuses have a current limiting element that cuts off fault current so fast that it cannot build up to a damaging peak.

These new FUSETRON Low-Peak Fuses are built on the same principle as FUSETRON dual-element Fuses. They have:

the same High Interrupting Capacity
the same Time-Lag to hold harmless
current surges

PLUS Greater Current Limitation to restrict
fault currents to a LOW PEAK

FUSETRON Low-Peak Fuses can be inter-
changed with FUSETRON dual-element Fuses.

Where their use is required in any part of the

electrical system, they can be installed without upsetting proper coordination over the range of useful loads and normal faults.

Hence, their application requires no testing or complicated calculations.

They are designed for use to protect circuits and components that might be damaged by the thermal and mechanical stresses of peak fault currents if other protective devices are used.

If planning new installations, keep FUSETRON Low-Peak Fuses in mind for those locations where peak fault current must be held to a low value.

BUSSMANN MFG. DIVISION

UNIVERSITY AT JEFFERSON, ST. LOUIS 7, MO.





Not only that, but Safetex cuts application costs, too!

Sounds good, Charlie, but . . .

Prove it for yourself, Mr. Maxwell. Try a small order of Safetex and then ask Shipping what they think of it.

Well, I guess we could do that.

Shall I put you down for 5 cases or 10, Mr. Maxwell?

You can't accurately determine gummed tape costs by purchase price alone. Application costs are equally important. Try a small order and then ask your Shipping Department foreman—he'll tell you there's a difference in Safetex that pays off.

SAFETEX SUPERSTANDARD GUMMED TAPE 

CENTRAL PAPER COMPANY • MENASHA, WISCONSIN

For More Information Write No. 182 on Inquiry Card—Page 32



ANNOUNCING... the Beryllium Copper ROLLPIN®

Strong . . . highly resistant to corrosion . . . nonmagnetic . . . extremely conductive

Now you can use Rollpin to cut assembly and maintenance costs in a whole new group of applications. A new line made of beryllium copper, one of the strongest of the copper base alloys, opens the door to a wide variety of uses where resistance to corrosive attack, good electrical properties and other unusual characteristics are required. These slotted tubular copper spring-pins can be used in assemblies that range from plumbing fixtures to electrical instruments, particularly in conjunction with other copper base alloy components.

Rollpin has already established its ability to replace taper pins, straight pins and set screws; to serve as a rivet, dowel, hinge pin, cotter pin or stop pin . . . eliminating special machining, tapping and the need for hole reaming or precision tolerances. Driven into a hole drilled to normal production standards, it locks securely in place, yet can be readily drifted out and reused whenever necessary.

Rollpin is available in beryllium copper from .062"-diameter to .250"-diameter, and in steel and stainless steel up to .500"-diameter.

ELASTIC STOP NUT



CORPORATION OF AMERICA



as a rivet



a clevis pin



replace tapered pins



a set screw

Dept. R35-315, Elastic Stop Nut Corporation of America
2330 Vauxhall Road, Union, New Jersey

Please send me the following free fastening information:

- ☐ Data on beryllium copper Rollpin ☐ Here is a drawing of our product. What self-locking fastener would you suggest?

Name _____ Title _____

Firm _____

Street _____

City _____ Zone _____ State _____

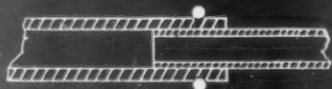
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FIRM GRIP NO SLIP

make
hose connections
faster
with

EATON-RELIANCE

HÖZ-FAS-NERS®



Production and maintenance men acclaim Eaton-Reliance Hoz-Fas-Ners for speeding up operations, cutting costs. Usable on rubber, plastic or fabric hose, they're always on the job — exerting continuous, uniform pressure at all points.

On assembly line operations, savings in time and motion are substantial with Hoz-Fas-Ners, compared with other type hose clamps. On service . . . removal and replacement of hose is greatly simplified. Hoz-Fas-Ners never need adjustment or retightening — they are vibration-proof and don't work loose.

Hoz-Fas-Ners can be installed quicker than other type clamps . . . no screws to turn, no nuts to put on, no preassembling. Hoz-Fas-Ners are fabricated from the highest quality alloy spring steel, and resist rust — your assurance of long life. Because of the round contours of the sections, the clamps have no sharp edges to cut into hose. They are re-usable — for additional savings.

Write for free Engineering Bulletin No. 1.



ALL STANDARD

SIZES AVAILABLE



EATON

**RELIANCE DIVISION
MANUFACTURING COMPANY**

513 CHARLES AVENUE

MASSILLON, OHIO

SALES OFFICES: New York • Cleveland • Detroit • Chicago • St. Louis • San Francisco • Montreal



PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings • Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

For More Information Write No. 184 on Inquiry Card—Page 32

Information For Your Catalog Files

ABRASIVE BELT GRINDING

A 2-color, 24-page booklet shows how abrasive belt grinding increases production at lower cost. It illustrates over 30 case histories, giving production figures, type belt used, etc.

Engleberg-Huller Co.

Write No. 1 on Inquiry Card—Page 32

ABRASIVE MOUNTED WHEELS

Full information on a line of abrasive mounted wheels is supplied in a 32-page illustrated catalog. It gives data on grinding action, markings, grade, bond types, grain size and spindles.

Bay State Abrasive Products Co.

Write No. 2 on Inquiry Card—Page 32

BALANCING MACHINES

Bulletin No. 56 describes with photos the easy operation of a line of electro dynamic balancing machines. They are quickly set up both for production runs as well as small lot quantities.

Tinius Olsen Testing Machine Co.

Write No. 3 on Inquiry Card—Page 32

CHLORINATOR

Features, construction and uses of a vacuum-type, solution-fed chlorinator are described in Catalog 70-15. Manually or automatically operated, capacities are 60 to 6000 lb C1 daily.

Fischer & Porter Co.

Write No. 4 on Inquiry Card—Page 32

COMPARATOR

An 8-page folder, fully illustrated, describes an electronic comparator used for quick, accurate on-the-job gaging to .00002". It has only 2 basic parts: gaging head and amplifier.

Threadwell Tap & Die Co.

Write No. 5 on Inquiry Card—Page 32

CONTROLS

Bulletin J-101 includes eight pages of information on shaft-mounted positioning gearmotors for valves, drives, pumps and other applications. A control system for tool positioning is covered.

The Jordan Co., Inc.

Write No. 6 on Inquiry Card—Page 32

CORRUGATED BOXES

Basic factors in choosing corrugated shipping boxes are discussed in a 16-page illustrated booklet. Included are tables on economical dimensions and requirements for express shipments.

Stone Container Corp.

Write No. 7 on Inquiry Card—Page 32

DIE SET ACCESSORIES

Fully illustrated, the 8-page Catalog 70-A, Section 5, describes a full line of die supplies. Specifications and prices are supplied on steel drills, transfer screws, die rubber, etc.

E. W. Bliss Co.

Write No. 8 on Inquiry Card—Page 32

FASTENERS (ALLOY)

A 22-page bulletin lists standard and super alloy heat resistant fasteners, A-N, N-A-S and M-S studs, bolts and screws. They meet government procurement specifications.

Mercury Air Parts Co.

Write No. 9 on Inquiry Card—Page 32

FASTENERS, RIVETS, DRIVING TOOLS

Features and uses of a full line of commercial fasteners, including blind rivets are described in 2-color catalog, Form 8-416. Manual, pneumatic and hydraulic driving tools are listed.

Huck Mfg. Co.

Write No. 10 on Inquiry Card—Page 32

FLOW METERS

Bulletin F1607 devotes 22 illustrated pages to basic information on selection, sizing and installation of various types of differential pressure flow meters. Tables give flow calculations.

The Bristol Co.

Write No. 11 on Inquiry Card—Page 32

GRINDING MACHINES

Precision grinding machines and a punch-tape-controlled positioning table are illustrated and described in an 8-page brochure. Included are 4 models of rotary surface grinders, chucks 8"-40".

Arter Grinding Machine Co.

Write No. 12 on Inquiry Card—Page 32

Information For Your Catalog Files

INDUCTION HEATERS

Construction and design features of high frequency induction heaters and induction melting furnaces are covered in 2-color bulletin, 12B6430B. Output ratings of the heaters are 10 to 100 kw.

Allis-Chalmers

Write No. 13 on Inquiry Card—Page 32

METAL FORMING

Facilities for producing component parts from various metals and alloys for all types of industry are described in a 20 page colored bulletin. Photos show machines and finished parts.

C. B. Kaupp & Sons

Write No. 14 on Inquiry Card—Page 32

PIPE INSULATION FINDER

A slide fact finder, plastic coated for durability, enables user to select the most economical insulation thickness for pipes from 1" to 24" diam. It gives Btu losses per lineal ft/hr.

Union Asbestos & Rubber Co.

Write No. 15 on Inquiry Card—Page 32

PLASTICS

A 12-page condensed reference file evaluates various groups of plastics both as primary and complementary raw materials. Thumb indices aid in finding data on each family of plastics.

Bakelite Co.

Write No. 16 on Inquiry Card—Page 32

POTHEADS

The 12-page, 2-color catalog No. 5703 covers single and multiple conductor sealing devices for indoor or outdoor service; corrugated and petticoat bushings, 2.5 to 34.5 Kv, 1/0 to 2,000,000 MCM.

H. K. Porter Co., Inc.

Write No. 17 on Inquiry Card—Page 32

PROCESSING EQUIPMENT (CHEMICAL)

Mechanical descriptions and specifications of processing equipment for chemicals, food products and by-product recovery are supplied in Bulletin No. 380. It lists units for unusual jobs.

Blaw-Knox Co.

Write No. 18 on Inquiry Card—Page 32

PUMP CASTINGS

A 20-page catalog deals with various pump types that use Meehanite castings. Tables supply property evaluations from tests covering wear, acid corrosion resistance, impact and erosion.

Meehanite Metal Corp.

Write No. 19 on Inquiry Card—Page 32

SAFETY SHOES

Complete details on 72 different safety shoe styles for both male and female employees are supplied in a 16 page catalog. A guide helps to select the shoe best suited for various hazards.

Lehigh Safety Shoe Co.

Write No. 20 on Inquiry Card—Page 32

SAW CHAINS

Useful information on how to keep saw, chain, bars and sprockets in top working condition is given in a 20-page guide. Part I discusses preventive maintenance; part II, chain damage causes.

Borg-Warner Corp.

Write No. 21 on Inquiry Card—Page 32

SILICONES

The 12-page brochure #10-105, heavily illustrated in 2 colors, outlines the properties of silicones as dielectric materials. It also discusses other uses, such as for motor insulation.

Dow Corning Corp.

Write No. 22 on Inquiry Card—Page 32

SPRINGS (BELLEVILLE)

A 16-page, 2-color brochure supplies design data on coned disc springs, giving dimensions, spring factors and tolerances. A section lists over twenty end applications for which suited.

Union Spring & Mfg. Co.

Write No. 23 on Inquiry Card—Page 32

STRETCHER

Full specifications on a continuous take-up, manually-operated tensioning tool are given in an 8-page booklet. Three pages of pictures show how it can be used on most strapping jobs.

Acme Steel Co.

Write No. 24 on Inquiry Card—Page 32

This Modern Building Has Life-time Wiring Protection -- Thanks to **YOUNGSTOWN "BUCKEYE" CONDUIT**

Fifth and Boston Corporation's strikingly beautiful First National Building at Tulsa, Oklahoma, utilizes quality-controlled Youngstown "Buckeye" Black Enameled Full Weight Rigid Steel Conduit exclusively, for protection of its all-important electrical wiring system.

Nationally-known building owners, leading contractors and progressive architects realize that electrical systems that don't function safely and efficiently are definitely a bad investment. So to guard against this costly condition they specify Youngstown "Buckeye" Conduit for its long, trouble-free service life.

"Buckeye" Conduit is easy to fabricate on the job—easy to fish wires through—and thoroughly corrosion-resistant to damaging elements such as water, moisture, vapor, dust and dirt.

Leading distributors in every industrial and electrical market are ready to serve you quickly from their ample stocks. They're as near as your phone—why not call today?

First National Building, Tulsa, Okla.
Owner: Fifth and Boston Corp., Tulsa, Okla.
Architect: Carson & Lundin, New York, N. Y.
General Contractor: Manhattan Construction Co., Muskogee, Okla.
Electrical Contractor: Western Division of J. Livingston Co., St. Louis, Mo.
Conduit Supplier: Westinghouse Electric Supply Co., Tulsa, Okla.



Standard-threaded rigid steel conduit is the only wiring system approved today by the National Electrical Code as moisture, vapor, dust and explosion-proof for use in hazardous locations and occupancies.



THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon, Alloy and Yaloy Steel
General Offices - Youngstown 1, Ohio
District Sales Offices in Principal Cities

"KEX" Wiping Towel Service used for over ten years by Major Oil Industry in California



SHELL OIL COMPANY

STANDARD



STANDARD OIL COMPANY
OF CALIFORNIA



TIDEWATER OIL COMPANY



UNION OIL COMPANY
OF CALIFORNIA

These companies choose "KEX" Wiping Towel Service because ever-ready "KEX" boosts efficiency. Regular pick-up, regular delivery . . . national service, national quality control are assured.

"KEX" Wiping Towel Rental Service is so flexible that these superior wiping cloths can be supplied as needed, to provide for peaks and lows in production. Obviously, this feature means lower costs in procurement, transportation, storage, and handling charges.



Discover how "KEX" Service can benefit you. These California companies are serviced by Shop Towel Service and Supply, 317 Victory St., South San Francisco, California.



See "Wiping Cloths" or write to "KEX" National Service, 295 Fifth Avenue, New York 16, N. Y.

"KEX" NATIONAL SERVICE

REG. U.S. PAT. OFF.



It isn't "KEX" unless it's imprinted with the "KEX" name.
For More Information Write No. 189 on Inquiry Card—Page 32

Catalog Files

TESTING METHODS

Two brochures deal with reliability of electrical wiring systems. One discusses tests for wiring systems during all production phases; the other how to ensure utmost reliability in any system.

Dit-Mco, Inc.

Write No. 25 on Inquiry Card—Page 32

TRUCK PARTS

"Parts Want Book" is designed to facilitate maintenance of his vehicles by any fleet operator or truck user. It lists hundreds of parts made by the country's leading manufacturers.

The White Motor Co.

Write No. 26 on Inquiry Card—Page 32

TOOL STEEL

An 8½" x 11" stock chart, printed on durable laminated material, gives full data on precision ground steel. It gives sizes, shapes, analyses, hardening instructions, surface finish, etc.

Uddeholm Co. of America, Inc.

Write No. 27 on Inquiry Card—Page 32

VALVES (BRASS)

Catalog R-6 gives sizes and application information for a full line of refrigeration and air conditioning brass valves, accessories and fittings, including ASME approved relief valves.

Superior Valve & Fittings Co.

Write No. 28 on Inquiry Card—Page 32

V-BELTS

How raw materials and finished V-belts are tested and inspected forms the text of illustrated booklet S-51107 (16 pp). Sections explain quality control procedure and experimental output.

Goodyear Tire & Rubber Co.

Write No. 29 on Inquiry Card—Page 32

For More Information Write No. 190
on Inquiry Card—Page 32→

PURCHASING



Black & Decker Tools for maintenance ... electric power at its saving best!

Specify the POWER-Built line:

71% of buyers say B&D!

Whether it's a grinder or a cleaner; a drill or a power hammer—over 7 out of 10 industrial purchasers prefer Black & Decker! Experience has told them Black & Decker means *quality*; quality they can depend on to give them years of trouble-free service.

If you have an electric tool need—one illustrated here or any other—do as most people do: think *first* of Black & Decker. That's the name that means a tool to *do the job* and do it for years and years to come. Mail coupon for a free demonstration of the tool you need. **THE BLACK & DECKER MFG. CO., Dept. 1703, Towson 4, Md.** (In Canada: P.O. Box 278, Brockville, Ontario.)



No. 65 VACUUM CLEANER: handles wet or dry material. Big 1½ hp motor for plenty of suction. Super-flexible hose stretches to a full 15 ft.



6" H.D. BENCH GRINDER: Ruggedly built for H.D. grinding, sharpening, wire brushing or buffing. Full ½ hp constant speed motor keeps jobs moving.

No. 10 SCRUGUN®: Driving screws goes faster; handles up to No. 12 screws. Positive or adjustable clutch; center drive, end handle or pistol grip.

1½" HAMMER: 2200 punching blows a minute makes drilling, chipping, breaking or vibrating go faster, easier. Saves maintenance costs!



Leading Distributors Everywhere Sell

Black & Decker®

Quality Electric Tools . . . Power-Built for top performance

MAIL FOR FREE DEMONSTRATION

THE BLACK & DECKER MFG. CO., Dept. 1703, Towson 4, Md.

Please arrange a demonstration of your ☐ No. 65 Vacuum Cleaner; ☐ 6" Bench Grinder; ☐ No. 10 Scrugun; ☐ 1½" Hammer.

☐ Send me additional information.

Name.....Title.....

Company.....

Address.....

City.....Zone.....State.....

NEW 100-inch Wheelbase **RAMBLER AMERICAN**

The Ideal Car for Fleet Use



- The new Rambler American has the lowest suggested factory delivered price of any American-built car.
- The Rambler American has the top economy of all American-built cars . . . 35.39 miles per gallon with overdrive—Los Angeles to Miami—on regular grade gasoline under official NASCAR supervision. The Rambler American is the only small car that offers fully automatic transmission.
- With its compact 100-inch wheelbase, the Rambler American has a turning radius of only 18 feet, is more maneuverable in congested traffic, parks easier . . . saves valuable garage space.
- The Rambler American has plenty of room for 5-passengers, plus ample trunk space. Also available in three passenger Business Sedan with large inside compartment for samples, packages or tools.

RAMBLER AMERICAN TAKES THE INFLATION OUT OF FLEET OPERATION

You cut fleet costs three ways when you switch to the new Rambler American:

- You save on initial cost. Rambler American costs less than other U.S.-built cars.
- You save on operation. Major fleet operators using Ramblers report substantially lower operating and maintenance costs.

- You save when you trade or sell. Rambler has consistently enjoyed the highest resale value of all low-price cars.

We will be happy to arrange an "On-The-Job" test under your own operating conditions. Learn for yourself how the Rambler American can cut your fleets costs substantially.

FLEET LEASING ARRANGEMENTS AVAILABLE

If your firm leases fleet units, ask your leasing company for low Rambler rates or write us for the names of leasing companies with whom we have working arrangements.

A special service to fleet managers. One phone call or letter handles all details of fleet unit replacements at any point—coast-to-coast.

American Motors
CORPORATION
FLEET SALES DIVISION

14250 Plymouth Road • Detroit 32, Michigan
Phone WEbster 3-8200

LONGER SOLENOID LIFE...

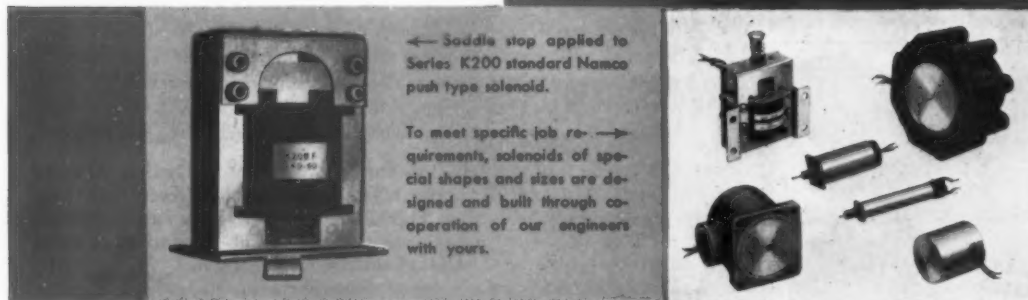
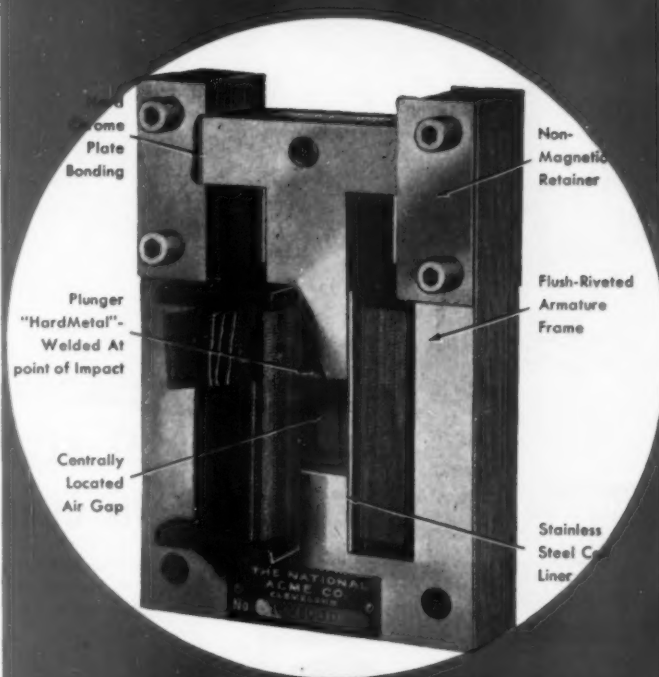
with NAMCO'S exclusive "HARDMETAL"-welded plunger bonding

Standard or Custom Models To Fit Your Design

"HardMetal"-welded plunger bonding prevents mushrooming at the vital point of impact—withstands incessant pounding of the plunger on the frame. Long plunger life, and thus long solenoid life, is further insured by hard chrome plating upper guide edges of plunger laminations to reduce friction and wear.

Namco standard solenoids are available in six series of pull and push type; custom-engineered solenoids in every size and type can be made to meet your specifications.

Standard "HardMetal"-Welded Solenoids are furnished push or pull type in sizes with ratings from 2-1/2 to 21 pounds at 1/2" stroke and from 2 to 25 pounds at 1" stroke.



Ask us to send a National Acme Representative to discuss your problems, or if you want more information first—send for BULLETIN EM-52.

ELECTRICAL MANUFACTURING DIVISION

National Acme

THE NATIONAL ACME COMPANY, 191 EAST 131ST STREET, CLEVELAND 8, OHIO

For More Information Write No. 192 on Inquiry Card—Page 32



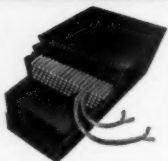
DURKEE-ATWOOD V-BELTS SOLVE PROBLEMS IN CHEMICAL PROCESS INDUSTRY

**DURKEE
ATWOOD
V-BELTS**

*a complete line
serving industry*

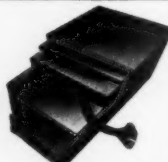
MULTIPLE V-BELTS

Standard Line for normal loads.
Premium Line with 40% extra capacity for high loads.



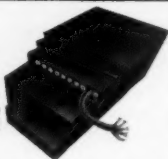
STEEL CABLE V-BELTS

A complete line of steel cable reinforced V-belts.



GENERAL DUTY V-BELTS

Power-balanced construction for maximum flexibility, durability and strength.



DOR-TITE

for weather proofing...
sound proofing... draft
stopping, etc.



SPONGE RUBBER

for cushions... gaskets...
mounting pads, etc.



Transmitting necessary power from drivers to mixers, compressors, grinders, pulverizers, beaters, agitators, pumps and many other machines calls for V-belts that do the job no matter how tough the conditions.

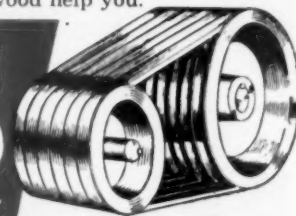
Durkee-Atwood *Dynamic Action* V-belts serve the chemical process industry with special synthetic rubber compounds and special fibres or steel cables for maximum performance in extreme conditions.

CHECK LIST OF CHEMICAL PROCESS V-BELT PROBLEMS

- ☐ When chemicals rob other belts of life . . .
- ☐ When oils and fats reduce efficiency of other belts . . .
- ☐ When extreme temperatures limit total power transmission of regular belts . . .
- ☐ When abrasive dust increases replacement costs of regular belts . . .
- ☐ When other belts require frequent take-ups in high humidity . . .
- ☐ When load requirements call for additional regular belts boosting sheave costs . . .

. . . then you'll appreciate how the complete line of Durkee-Atwood Standard, Hyload (Premium) and Steel Cable V-belts can help your production schedules. Durkee-Atwood engineers and chemists apply field-tested formulas to provide the right belts to solve these and other problems. Let Durkee-Atwood help you.

**DURKEE
ATWOOD
COMPANY**



FEderal 2-0441

Minneapolis 13, Minn.

Suppliers in the News

Metals & Controls Corporation, Attleboro, Massachusetts, has elected John F. Wilson vice president in charge of sales at a recent



John F. Wilson

meeting of the board of directors. In March, 1957, Mr. Wilson joined the corporation as general manager of marketing. He had been general sales manager of the Cleveland Welding Division of American Machine & Foundry Company and prior to that was works manager of the company's Leland Electric Division.

C. L. Ward Company, Kansas City, Mo., has been appointed to represent **The Standard Transformer Company, Warren, Ohio,** in all of Kansas and western Missouri. This is an expansion of the territory served by the company.

The Risdon Manufacturing Co., Naugatuck, Conn., has recently announced the appointment of Richard P. Pearson as assistant sales manager of wire specialties for the company's Wire Goods Division. Mr. Pearson's sales responsibilities will encompass formed wire specialties and the company's line of laundry and dry cleaners supplies. Risdon has also announced the appointment of Mr. Frank Pilsch as assistant sales manager of the company's John M. Russell Division, producers of metal chain and plumbing products.

Howard Hightower has been appointed vice president in charge of sales for **Hurst Tool & Manufacturing Company, Princeton,**



Howard Hightower

Indiana. Mr. Hightower recently resigned as comptroller and secretary and treasurer of Potter & Brumfield, Inc., where he had been employed for 22 years. For the past five years, he has been associated with Hurst, and has been secretary and treasurer of the company for the past three years.

Joseph M. Temple has been appointed manager of a new sales region established in the Rocky Mountain area by **The Foxboro**



Joseph M. Temple

Company, Foxboro, Massachusetts. Mr. Temple, with headquarters at Denver, will supervise company branch offices in Den-

ver, Salt Lake City, Kansas City and Omaha, formerly administered through the regional office in Chicago. A new branch office has also been opened in Denver. Paul C. Jones has been named sales engineer for the Denver area.

J. M. Gerber's appointment as western regional sales manager for the Wire and Cable Division of **The Electric Auto-Lite Company, Toledo, Ohio,** has been announced. In his new post, Mr. Gerber will direct the company's expanding aircraft and industrial wire and cable sales activities in seventeen states west of the Mississippi. Most recently, he was California district sales manager for the division. In that capacity, he maintained direct sales relations with leading aircraft and electronic manufacturers. Mr. Gerber will continue his headquarters at Los Angeles and will supervise the sales activities of three district offices.

Appointment of Thomas H. Brumagin as general sales manager has been announced by **Ajax Flexible Coupling Company, Inc., Westfield, New York.** Mr. Bru-



Thomas H. Brumagin

magin has been associated with the company for 11 years in executive capacities in engineering, production and sales.

Suppliers in the News

Announcement has been made by the **Farr Company, Los Angeles, California**, of the appointment of **Gordon F. Thruelsen** as general



Gordon F. Thruelsen

sales manager. Mr. Thruelsen, formerly had been general manager of **Dust Control, Inc.**, a company subsidiary and their southern California sales and certified filter service representative.

The Witt Cornice Company, Cincinnati, Ohio, has appointed **Lawrence V. Lindgren** assistant sales manager. Formerly asso-



Lawrence V. Lindgren

ciated with **Barclays Bank** and the **Selective Insurance Company of Cincinnati**, Mr. Lindgren has over ten years sales and promotional experience.

Announcement of the appointment of **Bruce Mayo** as district manager of its **Birmingham** district office has been made by



Bruce Mayo

Link-Belt Company, Chicago, Illinois. Mr. Mayo replaces **J. Ross Arnold** who has been appointed to handle a special assignment at the company plant in **Colmar, Pennsylvania**.

Arthur B. Williams has been named sales manager of **Engineered Electronics Company, Santa Ana, California**. Mr. Williams



Arthur B. Williams

has left his post as assistant to the sales manager of **Wright Engineering Company, Pasadena**, manufacturers' representatives. Prior to that he had been a field sales engineer for **Wright** covering the **South Los Angeles-Orange County** area.

Appointment of **Donald G. Tucker** as sales representative specializing in meehanite casting applications and special contract



Donald G. Tucker

work has been announced by **Nordberg Manufacturing Company, Milwaukee, Wisconsin**. His sales territory consists of **Wisconsin, Iowa, Illinois, Indiana, Michigan** and **Ohio**. Mr. Tucker will make his headquarters at the **Milwaukee plant**.

Matthew A. Oliver has been named **Pacific region manager** of **Lily-Tulip Cup Corporation, New York**. He will make his head-



Photo courtesy Lily-Tulip Cup Corporation

Matthew A. Oliver

quarters in **San Francisco**. Associated with the firm since 1939, Mr. Oliver was recently staff assistant to the vice president of marketing in the **New York office**, and prior to that was sales manager of the **Pacific area**.

NOW ON STREAM...

General Chemical's newest sulfuric acid plant...Elizabeth, New Jersey

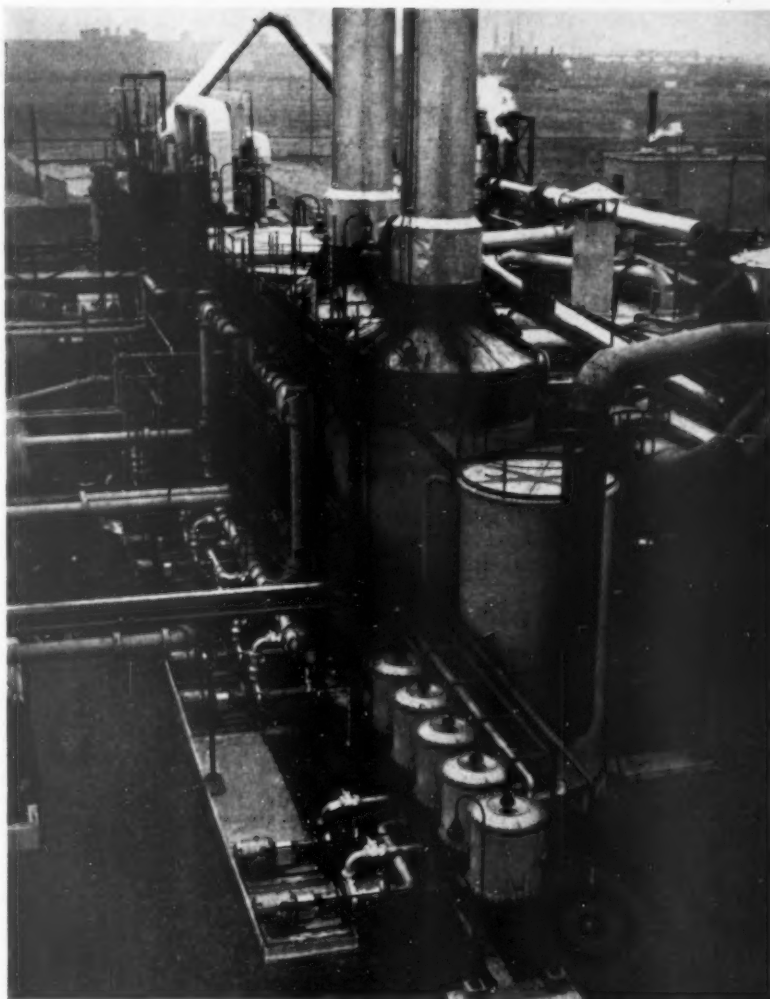
Shipments are now going out by rail, truck and barge from General Chemical's newest sulfuric acid plant, at Elizabeth, New Jersey. Serving northern New Jersey, metropolitan New York and New England, this plant is the 21st in General's coast-to-coast chain of sulfuric acid producing locations in this country and Canada.*

Recovering Spent Acids

Included are the most modern facilities for decomposition and regeneration of by-product spent acids. Together with similar facilities at North Claymont, Del., these make General Chemical the *only* company in the metropolitan New York and Philadelphia areas geared to recover virtually all forms of spent acids and sludges from such industries as oil refining, detergent and chemical manufacture.

For information on how this plant can serve you, write or phone nearest office listed below.

*The Nichols Chemical Company, Limited.



Basic Chemicals for
American Industry



GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

New York 16, N. Y.
261 Madison Ave.
HAnover 2-7300 Ex. 222

Philadelphia 7, Pa.
12 South 12th St.
WAlnut 2-1234

Providence 1, R. I.
58 Weybosset St.
DExter 1-2366

Bridgeport, Conn.
850 Norman St.
EDison 4-9419



Two Cap Screws . . . both the same length but one with a larger diameter than the other. If you were buying or specifying Cap Screws of this length, where maximum tensile strength was required, which would you choose?

Be careful! It's easy to jump to the wrong conclusion. Actually the Cap Screw with the smaller diameter is the best buy from every standpoint. It has greater tensile strength, costs less and makes possible a lighter, stronger assembly. Why? Because the smaller

diameter Cap Screw is a Lamson & Sessions 1038 Double-Heat Treated Cap Screw while the other is the ordinary low carbon Full Finished Cap Screw.

This is one of many instances where Lamson & Sessions can help you make the *right choice* when you have a fastener problem. As manufacturers of over 20,000,000 fasteners a day, backed by nearly a century of experience making fastener products, you can bank on Lamson salesmen and engineers to give you the right answers . . . *every time!*

The LAMSON & SESSIONS Co.

5000 TIEDEMAN ROAD, CLEVELAND 9, OHIO • PLANTS AT CLEVELAND AND KENT, OHIO • CHICAGO • BIRMINGHAM





BEN BUTLER (right), West Coast Production Manager, Borden Company Chemical Division. Left, Bernard Egan, Alaskan Copper & Brass Co., Cooper Alloy distributor for the Pacific Northwest.

BUTLER OF BORDEN CHEMICAL tells why he buys COOPER ALLOY stainless steel valves

Q. Mr. Butler, why does Borden Company Chemical Division require stainless steel valves?

A. In the manufacture of formaldehyde, its derivative resins, and corresponding industrial adhesives only stainless steel can meet our rigid requirements for corrosion, contamination and heat resistance.

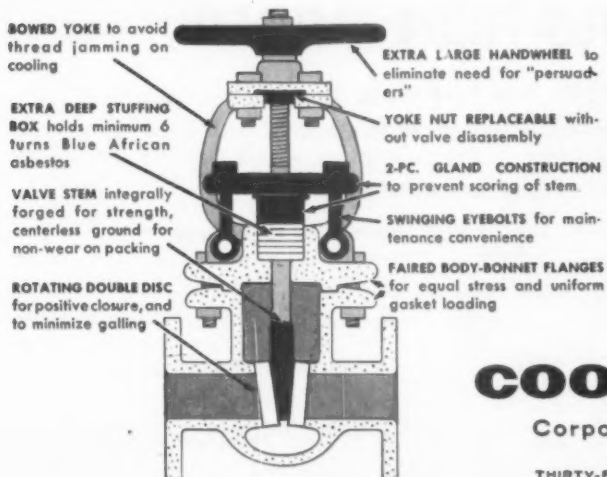
Q. What do you consider the most important factor in purchasing valves?

A. The truest measure of a valve is its operating performance. We have never received a complaint on Cooper Alloy valves from our engineers or operating personnel. The extra-large handwheel and unique valve design afford easy operation

with positive opening and closing, minimizing maintenance and down time.

Q. What other factors count in choice of valve supplier?

A. Service. The large and complete Cooper Alloy stock at Alaskan Copper affords immediate delivery on stainless steel valves and fittings, as well as pipe. That's a big reason why we buy Cooper Alloy!



A VALVE DESIGNED FOR STAINLESS!

The Cooper Alloy valve is not an adaptation of earlier brass and iron patterns. Cooper Alloy, with over 35 years of experience in handling stainless steel, created a valve designed to be cast in stainless! Check the Special Design Features shown at left.

As the little CA man below is saying: "You can tell a Cooper Alloy Valve as far as you can see it!" Write today for your copy of our folder "Design Factors In Stainless Steel Valves." The Cooper Alloy distributor near you will be glad to show you the complete line of Cooper Alloy valves and fittings, and their advantages. He can serve you promptly from local stocks.

COOPER & ALLOY

Corporation • Hillside, New Jersey

VALVE & FITTING DIVISION

THIRTY-FIVE YEARS OF STAINLESS STEEL PIONEERING

ORDER YOUR OWN COPY OF PURCHASING MAGAZINE

A personal subscription to PURCHASING delivers a fresh, new copy right to YOUR desk . . . or YOUR home . . . as soon as it comes off the press.

Your name on the mailing label of the magazine means that YOU get first crack at the factual articles that dominate every issue of PURCHASING.

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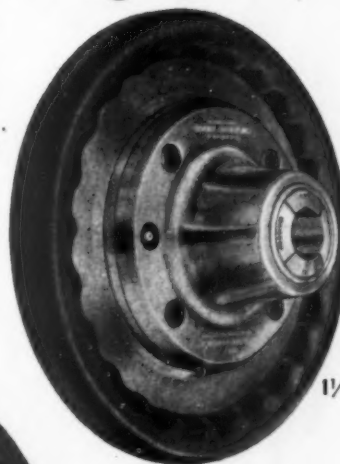
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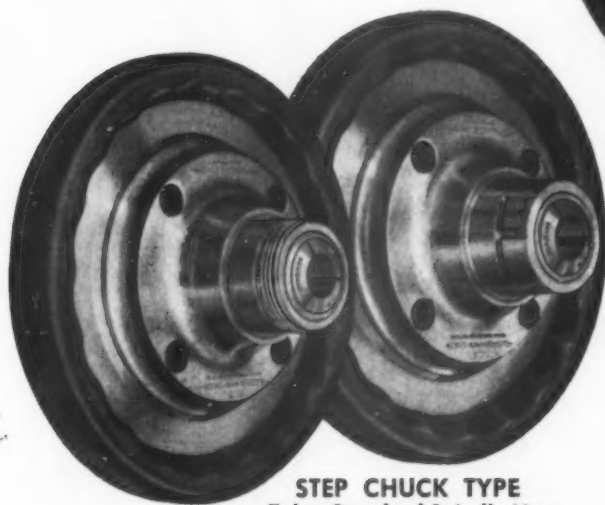
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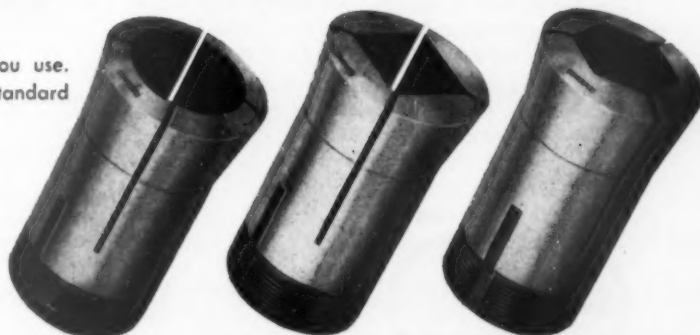
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Ask Your Hardinge Representative or Local Distributor For Bulletin 88

HARDINGE Low Cost Steel Collets

Maximum efficiency — Pay for only what you use. Records show that 82% of all sizes used are standard 16th sizes.

Buy only the sizes you use — Hardinge Collet stocks are available in Atlanta, Boston, Hartford, New York, Philadelphia, Rochester, Dayton, Detroit, Chicago, St. Louis, Minneapolis and Los Angeles. Also, Toronto and Montreal, Canada.



HARDINGE BROTHERS, INC., ELMIRA, N. Y. U.S.A.

When you buy from Ohio Seamless



YOU PRESS THE BUTTON **OHIO SEAMLESS** DOES THE REST

Buying steel tubing from Ohio Seamless doesn't cost—it *pays*. Our minimum quantities are generally smaller than you may realize . . . often as small as 100 to 150 feet, in certain seamless grades and sizes.

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For proof, contact our nearest sales office or the plant at *Shelby, Ohio—Birthplace of the Seamless Steel Tube Industry in America.*

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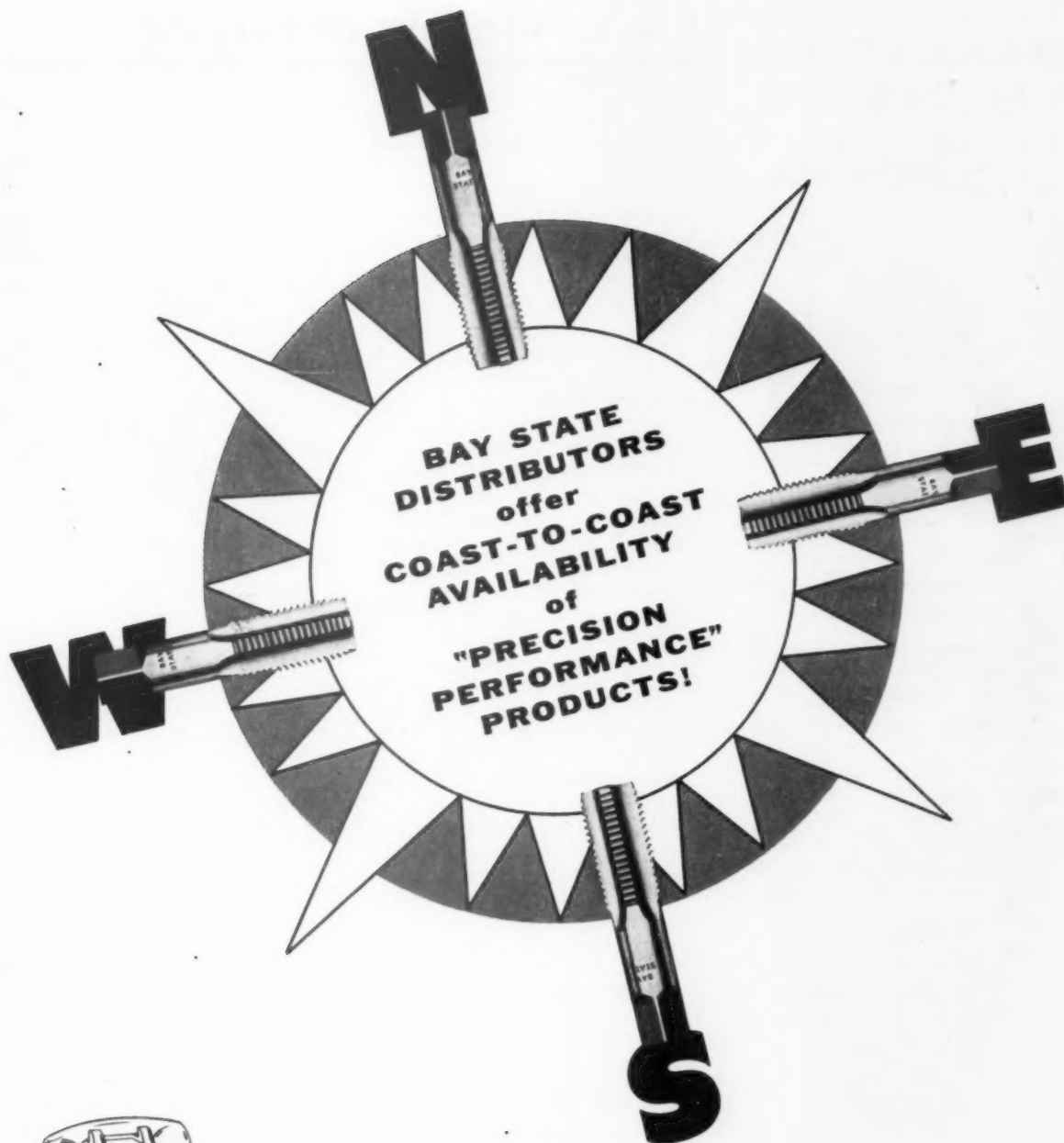
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MARCH 3, 1958

PHILLIPS OR SLOTTED MACHINE SCREWS

BY *Southern*

**QUALITY
MACHINE
SCREWS,
USA-MADE
BY
SOUTHERN
IN STEEL,
BRASS, ALUMINUM,
STAINLESS STEEL.**

HEAD STYLES: FLAT, ROUND, OVAL, PAN,
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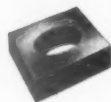
Southern are specialists in quality fasteners—made in USA by USA workers, of USA materials. Every Southern machine screw and stove bolt meets or exceeds Federal or Phillips specifications.

Over one billion screws in stock. Four big, Southern warehouses* means right-now service!

Wire, phone, or write Southern Screw Company, Statesville, North Carolina, for immediate handling of your order or inquiry.



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MACHINE SCREWS & NUTS
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STOVE BOLTS
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*WAREHOUSES: NEW YORK,
CHICAGO, DALLAS, LOS ANGELES



For More Information Write No. 201
on Inquiry Card—Page 32

f. o. b. "filosofy of buying"

FROM ALL ACROSS a broad industrial front come reports of a new offensive against purchasing agents. Reception rooms are bulging with battalions of salesmen, restless over the lull in business, and eager to get into the battle for the buck. Veteran P.A.'s are perhaps not quite as eager for combat—having many other things to occupy their time—but are facing up to the new assault with confidence.

But is their confidence justified? The wars between the nations are not the only ones in which new and frightening technological developments are being made. The everlasting struggle between buyer and seller has produced many devious and startling weapons—and from all indications the forces from the other side of the desk have gained the upper hand in this respect. Within the past couple of years they have come up with at least three new approaches to selling that call for some sort of massive counter-attack—or at least defensive program—on the part of purchasing. Before you begin to gloat over the current buyers' market, consider these four approaches now being prepared by the sales fraternity—all across the nation:

... Motivational research on buyers. This is a thorough-going analysis of the subconscious psychological drives that impel a person to prefer and select one type or brand of product over another.

... Subliminal perception techniques. These involve flashing advertising messages across a moving picture or television screen so rapidly that they do not interfere with the feature being presented—yet register on the viewer's subconscious mind so effectively that he obeys the merchandising imperative and goes out and buys the product that is being sublimized.

... Greater use of emotion in industrial advertising. "Too long" warned the head of a prominent New York advertising agency, "have we concentrated on the

dead, dry, factual approach in merchandising products to industry. We've set the men who make buying decisions for industry up as cold automatons who want to know only precise engineering and manufacturing data about our products. But they're people just like the rest of us. (Ed. note: This is news?) Let's get rid of that image of the hard-headed realistic fact-minded executive. Let's talk to him as a person with the same hopes, fears, etc. as everybody else. Let's put more emotion into our industrial advertising!"

... And out on the West Coast there's a management consultant who is running a special school for salesmen which is designed to teach vendors the best psychological approaches to convince "problem" buyers. One of the keys to this form of psychological selling is silence. At the beginning of the interview, the salesman tries to get the buyer to do most of the talking so that he can determine which personality type the buyer most closely resembles. Then, after the salesman has completed his analysis, he knows which of the psychological selling techniques he learned in school stands the best chance of convincing the buyer.

THERE YOU have it. There for better or for worse is the rough battle plan of your worthy opponents. Today you look out in the reception room and waiting there to see you are several typical salesmen—cheerful, outgoing types with a warm smile for you, an open-handed manner, loaded with helpful data about their products, eager and willing to listen to your production or delivery problems and perhaps to leave a cigar or two on their way out. Taking on this type is a challenge no self-respecting P.A. would be afraid of. This is a kind of gentlemen's war, against peo-

ple you know and respect. It's a war fought according to civilized rules as hallowed as the common law.

Ah, but what of tomorrow?

What of these strange new ideas stalking the land?

Are purchasing agents adequately armed to meet these mysterious threats against their free institutions—the art of negotiation; the right to choose a vendor on the bases of quality, service and price; the right to say no, we don't need any die castings, we're a paper mill?

What will the P.A. see when he looks out into the crowded reception room? The smiling, helpful salesmen may be replaced by dour, introverted professorial types with piercing eyes and the mien of inquisitors. The bulging briefcases may be replaced with rather odd looking black bags, or bulky black cases obviously carrying important, mysterious equipment.

What will the P.A. see as he looks through the ads in his favorite business publication? What exotic, compulsive messages will replace the old-fashioned type of ad that boorishly states, "Here's how we can cut your steel costs 35%"?

WE FEEL SURE that purchasing men as a whole have the will and determination, the inner strength, to fight and beat this new evil. But we fear there will be dark days ahead before our victory is complete. There may be some weird encounters between salesmen and purchasing agents—and some weirder purchase orders issued—in the coming year. But we must be bold and unafraid. We must look at the possibilities before we talk of unconditional surrender.

In the next issue we plan to examine particular situations—horrible as they may be—that may arise out of this new type of sales warfare. Only that way can we all know what is coming and go out valiantly to fight and defeat it.

MARCH 3, 1958



**Anti-Corrosive
WIRE CLOTH**

- STAINLESS STEEL
- "NICHROME"
- "MONEL"
- PHOSPHOR BRONZE

for

- FILTER CLOTH
- SPECIAL PARTS
- STRAINERS
- SIEVES
- TRAPS
- SCREENS

Are you using wire cloth or wire cloth parts which must be corrosion resistant? Are the service conditions in your plant really tough? If you have a problem selecting the proper anti-corrosive alloy, Newark Wire Cloth may have the answer.

Available in all corrosion resistant metals, Newark Wire Cloth is accurately woven in a wide range of meshes, ranging from very coarse to extremely fine.

If you have a wire cloth problem involving corrosion, please tell us about it . . . we may have the answer.



NEWARK
for ACCURACY

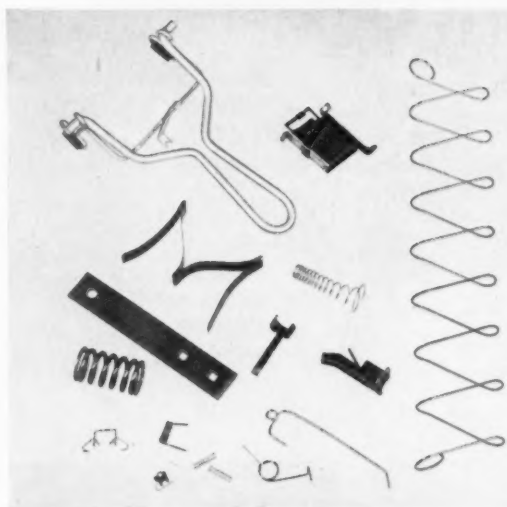
A complete line of woven wire cloth and wire cloth parts in all malleable metals.
Send for Catalog B

**Newark
Wire Cloth
COMPANY**

351 VERONA AVENUE • NEWARK 4, NEW JERSEY
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From Hunting to Hi-Fi . . .

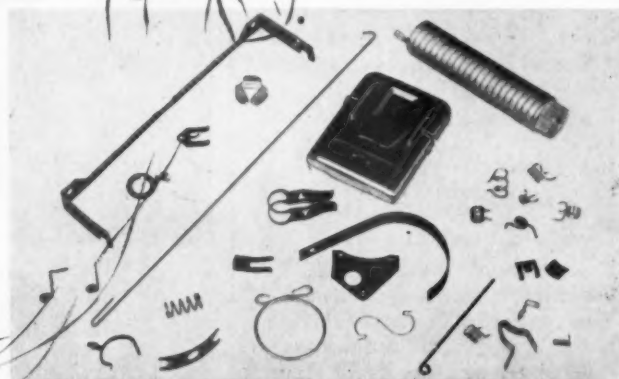
There's a Spring in your Hobby



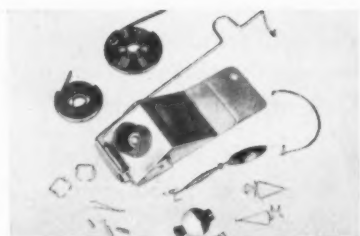
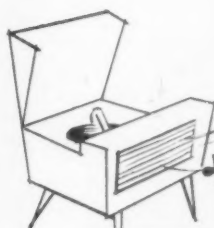
HUNTING — Ammunition clips, trigger springs and gun parts for civilian and military use; even a precision sling shot frame.



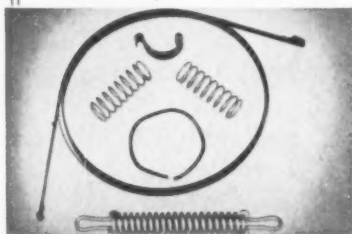
The booming market of hobbies and sports is typical of the far-reaching use of A.S.C. products. Often small but always important, springs make better products possible — and A.S.C. Divisions make better springs through constant research and experiment. Write for "The Picture Book of Springs."



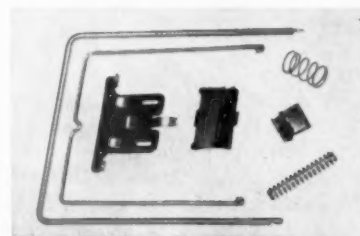
MUSIC — Coils and clips for radio, TV and record players; violin mute springs, guitar levers, springs for cornets, pianos, organs.



FISHING — power springs for reels; wire and flat springs for rod holders, lures; and a frog holder frame.



BOATING — starter springs and parts for outboard motors; shock-absorber spring for trailers; rope tightener spring.



PHOTOGRAPHY — view finder frames, shutter springs and stampings for movie and still cameras.

Associated Spring Corporation



General Offices: Bristol, Connecticut

Wallace Barnes Division, Bristol, Conn. and Syracuse, N. Y.
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Seaboard Pacific Division, Gardena, Calif.
Cleveland Sales Office, Cleveland, Ohio
Canadian Subsidiary: The Wallace Barnes Co., Ltd., Hamilton, Ontario and Montreal, Quebec

Raymond Manufacturing Division, Corry, Penna.
Ohio Division, Dayton, Ohio
F. N. Manross and Sons Division, Bristol, Conn.
San Francisco Sales Office, Saratoga, Calif.

William D. Gibson Division, Chicago 14, Ill.
Milwaukee Division, Milwaukee, Wis.
Dunbar Brothers Division, Bristol, Conn.
Wallace Barnes Steel Division, Bristol, Conn.

5813 © 1958 ASSOCIATED SPRING CORPORATION

For More Information Write No. 203 on Inquiry Card—Page 32

Highlights

✓ Fundamentals of Purchasing

As the pressure mounts on purchasing to hold the line on inflation and help protect industry's profit margins, the need for buyers steeped in the fundamentals of sound buying grows. Even the most progressive companies recognize that "first things come first" in buyer education. That's why intra-company training programs stress a basic knowledge of purchasing principles before moving on to more complex areas. The current series by Stuart Heinritz (this issue features "Know Your Purchasing Costs" on page 71) provides an excellent guide for both experienced buyers and trainees to re-examine the foundations on which scientific modern industrial purchasing is built.

✓ Cut The Fat Out of Inventory

One of management's immediate reactions to a business decline is the demand, "cut down on inventory!"—which leaves the purchasing agent on the spot. He's faced with a delicate and difficult problem—to keep materials flowing in to meet production schedules without tying up sorely needed dollars. It takes a little doing, but it can be done. Four practical steps that enabled one large Southern firm to trim inventories sharply are described in an article beginning on page 78.

✓ More On Inventory Control

If you've always wanted to pursue the subject of inventory control but were bewildered or frustrated by the mathematics involved, you'll be interested in a simplified approach described on page 84. Here's a practical "how to" article on ways to make money on your inventory even in periods of rising prices . . . a down-to-earth explanation of basic formulas that are all too often presented in a way that frightens instead of enlightens.

✓ Can You Shell Mold That Part?

Shell molding was introduced to this country only about 10 years ago. Yet it has already proved itself an extraordinarily versatile and economical process for producing a variety of parts. The latest article in our series on technology for purchasing agents deals with all important procurement aspects of this valuable process.

Cover photos through courtesy of Warner Electric Brake & Clutch Company, Beloit, Wisconsin and Timken Roller Bearing Company of Canton, Ohio.

UNIQUE "ONE SOURCE" CASTING ANALYSIS

Offers "More Casting Value Per Dollar"
in Monarch



✓ ALUMINUM PERMANENT MOLD



✓ ALUMINUM DIE CASTING



✓ FUNCTIONAL ZINC DIE CASTING

Effective value analysis requires experienced judgement and knowledge of all methods involved. Years of experience in design and production of aluminum permanent mold, aluminum and zinc die castings, ready for assembly—enables Monarch to give you factual costs and impartial design analysis.

Save Time. Save Money. Contact Monarch on your casting requirements. Monarch produces the finest castings that can be made by each method. Send today for our new brochure—"Manufacturing Achievements in Molten Aluminum".



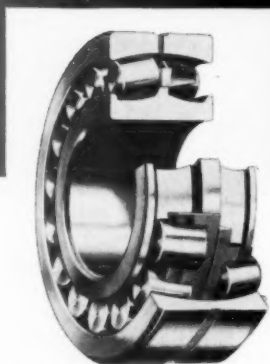
MANUFACTURING
in MOLTEN

ACHIEVEMENTS
ALUMINUM

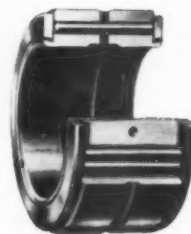
MONARCH ALUMINUM MFG. COMPANY

9205 Detroit Avenue Cleveland 2, Ohio

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on Inquiry Card—Page 32



from
power shovels...



to
helicopters

Torrington makes the right anti-friction bearing for every basic need!

Application requirements differ. A lightweight, high-capacity Torrington Needle Bearing is just right for a helicopter. But it's a different story with a mammoth power shovel, where Torrington Spherical Roller Bearings or Tapered Roller Bearings perform best.

Between these two examples lie all kinds of requirements. To meet the broad range of needs, Torrington makes every basic type of anti-friction bearings.

This range of experience can be of invaluable service to you in engineering your own anti-friction applications. Your Torrington representative is well qualified in your field: call on him for engineering assistance. **The Torrington Company, Torrington, Conn.—and South Bend 21, Ind.**

TORRINGTON BEARINGS

District Offices and Distributors in Principal Cities of United States and Canada

SPHERICAL ROLLER • TAPERED ROLLER • CYLINDRICAL ROLLER • NEEDLE • BALL • NEEDLE ROLLERS • THRUST,

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HARVEY CONOVER

A TRIBUTE



HARVEY CONOVER, President of Conover-Mast Publications, has been missing at sea since January 2. While heading for Miami from Key West, his yawl Revonoc was caught in a near-hurricane that hit the southern tip of Florida suddenly and without warning. On board with him were his wife Dorothy, son and daughter-in-law Lawrence and Lori Conover, and their friend William Fluegelman. Aside from a dinghy that was washed ashore a few days later, no trace of the boat or those on it has been found, despite extraordinary search efforts by the U. S. Coast Guard, the Navy, Marine, Civil Air Patrol, Cuban Air Force, and others.

Harvey and I started Mill. & Factory, Conover-Mast's first publication, thirty years ago. I was closely associated with him for five or six years before that, and I suppose I knew him just about as well as anyone did outside of his immediate family. But as close as I was to him, I knew only a part of him, and doubt that anyone knew him as a whole. He was a many-sided man, a prodigious worker, with the irresistible drive of a 500-h.p. bulldozer. Moreover, he was a perfectionist. Nothing was ever just "good enough." He strove for perfection in everything he did, whether it was polishing the rough spots off a new idea for serving one of the many fields covered by Conover-Mast publications or delicately threading a sailboat through a crowded harbor. He seemed to be the complete extrovert. But that was only on the surface. Actually he was a highly sensitive man, extremely perceptive, and modest to a marked degree.

If you met Harvey once you never forgot him. It was impossible for him to make a merely mild impression. Whether his contact was

with prime minister or shoeshine man, it was uninsulated person-to-person meeting. He saw a man as a man. A few days after the disappearance of the Revonoc was announced, Vito Clarizio, one of the elevator men in our building, said, "I hardly slept the last three nights worrying about Mr. Conover." That was the kind of impression he made on people.

He was 65, and at the height of his powers, but as a prudent man and foresighted executive, he not only saw the need for forward-planning but insisted that those plans be executed. As a result, for the past five years each Conover-Mast magazine has operated as a complete entity, with its own publisher and staff.

It would take a book to do justice to his many contributions to trade magazine publishing. The Conover-Mast organization itself is a monument to him. When he and I started the company, there were just four of us. Now we number several hundred. From one publication we have grown to seven.

His favorite expression was, and I have heard him use it many times, "Life is just one change after another. What's done is done. Let's get on with the job." Which is exactly what we are doing. Conover-Mast has been soundly built. Our long-range program of constant improvement and expansion to the fields we serve continues. We will get on with the job.

B. P. Mast, Sr.
Chairman of the Board



CORRUGATED + 'POLY' = NEW IDEA



Corrugated plus another packaging material... a typical Gaylord "new idea." Enables shippers to replace costly rigid drums with low-cost, one-trip disposable bulk packs. Reach you knocked-down... easy to handle, fill and ship. Less tare. Return shipping and warehousing, and extra bookkeeping are eliminated.

Let Gaylord-designed container ideas put you on the road to lower costs. Call your nearby Gaylord packaging engineer.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF **Crown Zellerbach Corporation**



Purchasing Is More Than a Job

A COUPLE OF WEEKS AGO I attended the annual sales meeting of a hard-hitting, successful national industrial company. Facing another year of "hard sell", morale was high. There was a lot of honest enthusiasm as the new items were introduced, the new sales plans outlined, and the new manual explained. There was also a lot of serious work and a lot of very plain speaking.

At one of the sessions a veteran district manager who sells consistently over his quota year after year was sharing his experience with the rest of the staff. In the course of his remarks he paused and turned toward a group of the newer men. "I believe in this product," he said simply. "If you don't believe in the product, you'd be doing a favor for yourself and for the company—but especially for yourself—to go out and look for another job."

A generation ago, the little group of far sighted buyers who laid the foundations of modern purchasing science expressed exactly the same thought in respect to purchasing. In the preamble to the code of purchasing standards and practices they set down the basic principles essential to successful purchasing and to the advancement of the purchasing function itself. And the first requisite they listed was:

"Faith in his profession."

The wisdom of that observation has been richly demonstrated in the record of progress and accomplishment over the succeeding years. Everything that has been achieved in the advancement of purchasing techniques, performance, and prestige rests upon that foundation—a body of purchasing people who believe in the job they are doing for industry.

In building a purchasing department and in training newcomers to the field, a good deal of attention is necessarily given to the techniques and procedures of buying. But for the larger accomplishment, don't overlook that first principle that gives meaning and integrity to the job. And don't expect salesmen to respect the importance of the purchasing agent, nor expect management to offer greater recognition to the function, unless purchasing men themselves believe in it and work enthusiastically according to their faith.

Stuart F. Hemmity



Sheet and strip—more than 20 kinds— and Ryerson delivers fast!

You name it—Ryerson has it.

Hot and cold rolled sheets. Pickled and oiled sheets. Tight-coated galvanized and galvanized sheets that won't flake or peel when you form them. Stainless sheets. Ryex expanded metal. Perforated sheets. And many others, all in a wide range of gauges and pattern sizes.

Need special sizes? Modern equipment cuts them

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Ryerson also offers a complete line of metalworking machinery and tools to meet virtually every requirement.

When you want sheet and strip, give Ryerson a call—it pays!



RYERSON STEEL

Member of the  Steel Family

Principal Products: Carbon, alloy and stainless steel—bars, structurals, plates, tubing, industrial plastics, etc.

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • WALLINGFORD, CONN. • PHILADELPHIA • CHARLOTTE • CINCINNATI • CLEVELAND
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NO. 5 IN A SERIES

Know Your Purchase Costs

A great deal of thoughtful attention has been devoted to labor costs, production efficiency, and costs of distribution. The materials item, often taken for granted, may actually be the key to shortcomings in other fields of company administration.

By Stuart F. Heinritz

BUSINESS PROFITS depend on the spread between income and cost. This success formula sounds deceptively simple, for cost is actually a very complex subject to deal with. It is made up of many variable and interrelated factors, some of which are not altogether predictable nor controllable. For instance, it's not enough to know the total amount of overhead expense, because volume of production determines how much of this "burden" rests upon each unit of product or sales. It's not enough to know wage rates, because productivity is what translates wages into unit labor costs. Capital expenditures for more efficient production and material handling equipment reduce direct labor cost but add to the overhead item. Costs of supervision, inspection, and quality control do not add directly to product value or income, but they help conserve profits by minimizing costs due to spoilage, waste, and rejects.

The cost accountants dutifully trace these costs from one ledger or operating account to another and allocate them as accurately as possible for purposes of control and as a guide to intelligent and adequate pricing. In every phase of business, cost reduction is a continuing goal. Still, on the final balance sheet, the profit margin may be disappointing. This does not necessarily mean that costs are too high. Frequently it means that the true cost was not known, or that some hidden cost element eluded the calculation. Before you can control or reduce costs effectively, you must know costs thoroughly.

We are here concerned with the costs in which

purchasing is involved. Purchased materials, parts, and supplies account for about half of total product cost in the typical manufacturing operation. This is obviously a large responsibility and represents a major area for cost-reduction possibilities. What is the real cost of these purchased items?

Purchasing's Cost Responsibility

We start logically with the invoice price, a known factor which is frequently (but inaccurately) referred to as "material cost". It is safe to say that every buyer tries to keep the price at the minimum consistent with the quality and quantity needed. To this end he explores the market and invites quotations to determine what opportunities are available. He times his purchases to take advantage of fluctuations in the market price. He negotiates with suppliers for the most favorable terms of purchase. He anticipates his needs so that his orders may earn the best quantity discounts. He processes and clears suppliers' invoices promptly so that cash discounts may be applied against the invoice price. All this is good, cost-conscious purchasing procedure. But it is by no means the whole story on material costs.

Cost of Transportation

Purchased materials must be delivered to the buyer's plant before they are of any use to the company. So the true cost of materials must include the costs of transportation and receipt. The cost of delivery may or may not be included in

What Does it Cost to Spend a Dollar?

Take the annual cost of operating your purchasing department (excluding cost of stores operation). Divide this figure by the total amount of annual purchases. The result shows the cost of spending a dollar.

Annual Purchase Volume	Range of Cost	Median	Average
Less than \$1 million	.003 to .095	.02	.028
\$1 million to \$10 million	.0014 to .024	.009	.009
\$10 million to \$25 million	.001 to .0196	.0053	.006
More than \$25 million	.00083 to .0148	.0025	.003

Source: Research Dept. PURCHASING Magazine

the vendor's quotation. In either case it is an element of cost for which the buyer is ultimately responsible, and it should be considered as a separate factor to be sure that unnecessary or excessive costs are not entailed. There are a number of things to be considered in this analysis.

The location of the supplier's plant or warehouse determines the mileage over which a shipment has to be carried, and thus has a direct bearing on transportation charges, sometimes sufficient to offset a differential in invoice prices.

The manner of shipment—whether by rail, truck, water, or air—by freight, express, or mail—by common carrier, contract carrier, vendor's own delivery service, or buyer's pick-up—is of basic importance to the cost of delivery and calls for intelligent decision. Premium types of fast transportation are often well worth the extra costs involved, according to the circumstances and the need; the important point here is that the cost be recognized and included in the total cost of the material so delivered. Where the more conventional methods are used, the usual traffic considerations of economical routing and proper freight classification can help keep costs down. And, of course, purchasing in full carload or truckload quantities rather than l.c.l. or l.t.l. lots makes a big difference in transportation costs.

The buyer's own receiving and unloading facilities also affect this phase of cost. Does he have the necessary rail sidings or docks, or will additional handling and cartage be required to complete the delivery? Can he handle the shipment promptly so as to avoid demurrage charges? If his receiving capacity is limited, he may be able to schedule shipments so as to avoid congestion, waiting time, and overtime wages.

Also, with efficient receiving facilities, he may be able to make savings in packing costs by specifying bulk shipments, skids instead of cases, or palletized units. In any case, his own receiving and handling costs must be considered—an additional area having a direct bearing on the real cost of materials.

Now we have brought the materials into the plant. We know the invoice cost and the cost of

transportation, and have taken steps to keep these costs at the practicable minimum. But up to the time that these materials actually go into production or plant use, material cost continues to accumulate. We need to have these items on hand, but we must not overlook the fact that it costs money to maintain these stores.

Cost of Possession

Inventory carrying cost includes, first, the interest on the actual money investment tied up in materials. Secondly, it includes the use of the space and fixtures required for storage. Third, it includes the cost of stores personnel for handling the physical inventory and for record keeping. In addition to these factors, there are insurance charges, taxes, and a necessary allowance to cover losses through depreciation, obsolescence, pilferage, and the like. Add them all together, and they amount to a very sizable sum, which is usually calculated in the form of a per annum percentage on over-all inventory valuation. Few companies can afford to figure less than a 12% carrying charge on inventory. Many find the real cost to be closer to 25%. Where inventories are classified for closer cost accounting and cost control, the rates will run from 10% up to 50% a year for certain classes of items.

Inventory maintenance is a necessary cost of doing business. It may be regarded as "production insurance" or as a part of working capital, or thrown into general overhead. However it is handled as a matter of accounting, the fact remains that it is basically a part of the cost of materials at the time of use. As such, it presents still another area for material cost reduction through the scientific planning and scheduling of purchases.

A great deal of effective cost reduction has been accomplished through the development of economical ordering quantity and inventory quantity formulas, the correlation of reserve quantities and ordering points with current rates of use and procurement lead time, and other techniques of inventory control. Sometimes this is set up as a separate responsibility; more frequently, it is a part of the purchasing responsibility. In any event, it must be effectuated through purchasing performance, and it is a part of material cost.

Cost of Purchasing

One more cost that enters into the real cost of every purchased material is the cost of the buying operation itself. Up until relatively recent years, this was truly the unexplored "dark continent" of purchasing knowledge. Again we are dealing with a general, unavoidable operating cost, spread over a great number and wide variety of individual transactions to a point where, superficially at least, it seems to have but little significance in relation to specific material costs. Yet it is an inescapable part of those costs. And as purchasing departments have grown in size and scope, an administrative and management situation arises that demands some measure

of evaluation. As the role of material cost looms ever larger as a profit factor in modern competitive industry, no element of that cost and no index of performance should be overlooked.

Every purchasing agent owes it to himself and to his company to know as accurately as possible what it is costing the company to buy. That information is a part of his working data. An offhand guess won't do. For instance, the mathematical determination of economical ordering and inventory quantities is based on the relationship between dollar value of materials and the cost of placing orders. If that cost figure is merely a guess, the whole formula and calculation becomes merely a guess instead of a scientific tool for effective control of the investment in materials, representing many thousands of dollars.

The more detailed such purchasing cost information is, the more helpful it will be toward improving purchasing performance. It will pinpoint the sources of wasteful effort and expenditure—duplicated clerical procedures, useless records, excessive expediting, excessive rejections, and excessively small orders where the cost of purchasing is greater than the value of the material itself. When every phase of departmental activity is put to the test of cost and worth, the direction to better practice is made clear. But this is not all.

It can safely be stated that every purchasing agent wants to operate his department both efficiently and proficiently. The two objectives are not the same. He can improve efficiency by streamlining procedures and cutting non-productive costs. That is still the lesser part of his re-



sponsibility. He can improve proficiency, the larger goal, through an operating investment in a more adequate staff, high grade buying personnel, systematic training, market and product research and analysis. Purchasing cost studies have established beyond any doubt, in the objective terms of dollars and cents, that such expenditures, properly directed and implemented, come back many times over in the form of greater value received in return for material dollars.

Cost of Utilization

Costs do not stop when purchased materials come to the manufacturing floor. Here the costs of fabrication and use are added. And in the last analysis, cost must be considered not in terms of cents per pound, but in terms of end product and results—ultimate cost and value. Has the purchasing agent's cost responsibility ended when material is bought and paid for, and the costs of acquisition and possession have been added? No. In retrospect, his work will be judged by other questions, such as:

Is the material suitable to the process, easily workable, minimizing machine time and costs?

Is it uniform in quality, for trouble-free operation and resulting in minimum rejects?

Is it purchased in the proper dimension to cut without waste, giving most product from a given amount of material and avoiding the necessity of machining to size?

Questions like these give a new dimension to material cost and purchasing responsibility—the concepts of ultimate cost, functional purpose, and utility. When such questions, instead of being asked only in retrospect, are considered in the original purchase request and decision, purchasing takes on a new and constructive aspect. The cost of lubricating oil is no longer the price per drum but the cost of lubrication. The cost of paint is not so much per gallon, but per square foot of coverage, including cost of application and drying. How can the buyer judge the worth of a work glove without knowing how many hours of service it will give and how many trips to the laundry it will stand in its useful life?

This of course opens up the whole field of value analysis, one of the cardinal features of modern purchasing science. That's a subject in itself. The important point for this discussion is that purchasing can never be done wisely and economically unless the purchasing agent knows his costs—all the way.

Cost of Possession

Benjamin Melnitsky in his well-known book, "Management of Industrial Inventory" (Chilton Company, Philadelphia, Pa.) says, "Owning stock is extremely expensive." A widely quoted estimate sets the figure at 25 per cent of the value of stock. The breakdown is as follows:

Obsolescence	10.00%
Interest on capital invested in inventory	6.00
Physical deterioration or its prevention	5.00
Handling and distribution	2.50
Transportation	0.50
Taxes	0.50
Insurance	0.25
Storage facilities	0.25
Total	25.00%

What the P.A. Should Know About Shell Molding

A relatively new process for producing parts is making rapid headway. It will handle a wide variety of shapes in a surprisingly large number of materials. Its inherent advantages have brought about impressive cost savings. Here's basic data on shell molding that every parts buyer should have.

By T. C. DuMond

ONE OF the newest of the metal forming processes is known as shell molding and its products as shell mold castings. Shell molding is somewhat a hybrid in that many of the steps in the process are similar to those in sand casting. But the properties of shell mold castings are likely to compare to those in products made by more expensive and complicated methods. So it is difficult to classify the process accurately as to its competitive position.

You can use shell molding to produce at less cost and with at least equal quality parts now made as sand castings, investment castings, die castings, machine-l parts, forgings and other forms.

Among the variety of parts made as shell mold castings are: valve bodies, annular pistons, gears, clock and instrument parts, valve plugs, turbine diffusers, dial scale indicators, clamps, flow drains, brake drums, rotors and many aircraft parts. In most instances where shell molding has been chosen over another process, manufacturers have been able to realize spectacular cost reductions or quality improvements.

The Process

The first step in the process is to make a metal pattern over which shells are subsequently formed. The pattern for any shell must be made in one piece, although two shells, plus coring, will be necessary to produce cast-

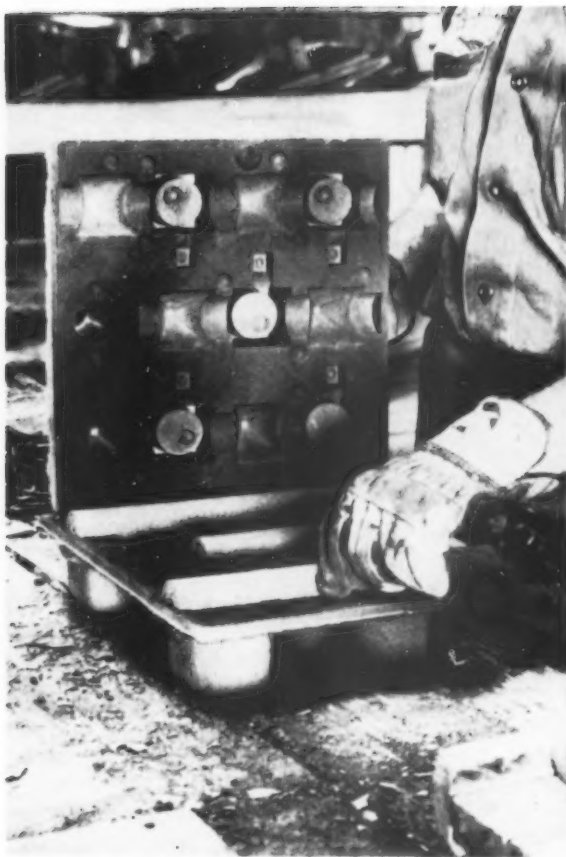
This is the third in a series of articles on the technical aspects of purchasing. The material that will be presented is meant to provide a "refresher course" for experienced buyers and basic instruction for trainees or buyers new to specific commodities. Mr. DuMond is the author of the well-known book, "Fabricated Materials and Parts" (Reinhold Publishing Corp., New York). A mechanical engineer, he has spent many years in technical writing and editing. He has published two other books on engineering materials and fabricated shapes.

ings of the desired shape. In sand casting either wood or metal patterns can be used, but in shell molding metal patterns must be used. The metal must be capable of being heated to from 400 to 500 F for long periods and to considerably higher temperatures for short periods. Aluminum and special high quality cast irons are most frequently used. Finishing of the pattern surface is of the utmost importance, because the shell, and ultimately the casting, will reproduce the pattern surface exactly. Material used for patterns plus the need for extreme care in polishing their sur-

faces adds to the cost of shell molding.

When the pattern is heated to proper temperature, a mixture of sand and plastics is poured over it in controlled quantities. Phenolic resins are most frequently used although research continues in an attempt to find some less costly binding material. Heat of the pattern melts the plastics material and binds the mixture into a shell which quickly solidifies. Thickness of the shell depends upon the time the mixture is permitted to dwell on the heated pattern. After sufficient time, the shell is removed from the pattern; shell halves are joined to each other; cores, if any, are set in place, and, the shell mold is ready to receive molten metal. Cores can either be green sand or the same mixture as the shell. In fact, shell mold cores are now being used extensively in otherwise standard sand casting operations.

As in sand casting, molds are destroyed after the molten metal has solidified into the desired shape. This boosts cost because the sand cannot be reclaimed and reused as in sand casting, because each grain of sand is coated with resin. One other item must be taken into account when considering cost of shell molding—the original cost of the plastics material. Plastics resins cost many times more than sand, per pound. It is often a simple matter to off-



Thin shell molds in which sand is bonded by phenolic resins produce smooth as-cast surfaces free from burnt-in or burnt-on sand.



Blowholes and other surface imperfections are eliminated in these aluminum castings because the porous shell allows gases to escape.

set these added costs by subsequent savings in machining and finishing of castings.

What Materials Can Be Molded

As to materials shell molding is nearly as universally applicable as sand casting. When it was first introduced, its boosters felt that the process was best suited to the non-ferrous metals, particularly aluminum alloys. Developments of recent years have proved this viewpoint too restricted. Now the bulk of shell mold castings are made of irons and steels. Only sand casting and investment casting among the many casting processes outstrip shell molding in the range of materials that can be used.

Among the materials successfully cast are: pearlitic malleable irons; gray irons; nodular iron; controlled quality irons; SAE 4140, 5145 and other high alloy steels; stainless steels; several varieties of bronze; nickel silvers; low leaded brasses; beryllium copper, aluminum alloys; magnesium alloys and Alnico magnet materials.

Shell molding's major shortcoming in respect to materials is its inability to be used with complete satisfaction in casting low carbon steels. It seems that all but extremely small castings of plain carbon steels with carbon contents of less than 0.50 per cent carbon are likely to be porous. In alloy steels, the alloying elements appear to act as pouring aids and thereby overcome any carbon deficiency.

One other group of metals is somewhat less than satisfactory as raw materials for shell molding. These are the high-lead and high-tin brasses and bronzes.

Selection Factors

There are several important selection factors to consider before accepting or rejecting the shell molding process. The points most frequently involved in such decisions are the surface finish obtainable and the finishing costs; size limitations; dimensional tolerances obtainable; labor costs and the number of parts required to justify the method.

Finish—Perhaps the most important attribute of shell molding is its ability to impart a fine surface finish to the casting. There are several reasons for this. One, the fine sand and plastics mixture fused together into the shell are absolutely smooth and duplicate with remarkable fidelity the finish of the pattern and in turn give this finish to the casting. Too, there is no loose sand which can be embedded in the casting surface and create roughness. Shells are permeable and by permitting air and gases to escape from the molten metal prevent the development of porous areas or surface imperfections in the casting. Along with the good finish attainable, the shell permits the accurate reproduction of such surface detail as nameplates, instructions or even ornamentation.

Tolerances—As castings go, shell moldings have rather good dimensional properties, as cast. Under normal conditions total dimensional variations as low as ± 0.010 " can be expected in castings up to 6" in length. Consider-



Aircraft parts of stainless steel cast in thin shell molds need virtually no machining. Over 3,000 of these were produced without a reject.

ably closer tolerances can be held on critical dimensions. When conditions justify the additional costs, tolerances of 0.003" to 0.005" can be held within the confines of a single shell portion. When the dimension involved crosses parting lines of shell halves, these tolerances should be doubled.

Holding tolerances to close limits can reduce costs in two ways. First, the nearer to final dimensions the casting is supplied, the less machining there is. Machining is expensive. Secondly, less metal is required to produce a given final shape. Scrap and its manufacture are extremely expensive.

Finishing Costs—The two factors just discussed have an important bearing on finishing costs. In shell molding such costs can be held to an extremely low point. As indicated, surface finish of as-cast shell molded parts is usually so near to perfection that the need for most finishing is eliminated. Sometimes it is even unnecessary to machine the parts. The ability to cast fine detail permits the casting of sharp corners and threads when necessary. In other instances, machining is held to a minimum because of the close dimensional control possible in shell molding.

Labor Costs—Shell molding involves considerably less labor

than many competitive processes. In extreme examples, labor costs have been reduced by as much as 90% through switching to shell molding. Although more time and labor are required to produce patterns for this method than for sand casting, these are more than offset by the virtual elimination of hand work in the production of the shells. One shell machine operator can produce shells at the rate of one every minute or so, depending upon size. Too, pattern costs become less and less expensive as production quantities increase.

Further labor cost reductions result from the fine finish possible in shell moldings. In many instances the only finishing required is the removal of sprues, gates and risers or the grinding down of parting lines. Too, as indicated previously, when machining is involved it is usually a relatively simple, hence, relatively inexpensive operation.

Quantities—Of all aspects of shell molding, the one where there appears to be the least agreement among experts is on the matter of how many parts are required to justify the method. Some claim that a minimum quantity of 5000 pieces or a steady production of 500 parts per month should be involved before shell molding is considered.

The fact is that no set figure can be established. There have been many cases where very few parts were involved but they had certain features which made them naturals for shell molding. If considerable intricate machining is currently required, a production of even four or five parts might be sufficient to offset the pattern costs. One example would be a large gear which could not be cut on ordinary gear cutting equipment. In this case, one machining operation could produce a pattern which, in turn, would be capable of reproducing as many similar gears as required and almost completely eliminate any further machining.

Some advocates of shell molding believe that if machining can be reduced by as little as 20 per cent the process is justified for the production of as few as 40 or 50 pieces. One company has claimed a saving of \$6000 by shell molding only 700 moderate sized pieces.

Sizes—Although shell mold castings weighing as much as 200 lb. have been made, the maximum size is usually restricted to between 20 and 30 lb., depending upon the metal being cast. For one thing, shell molding equipment is restricted in size. Thus special shell making techniques are needed for extremely large pieces. Another reason is that pattern costs and shell costs rise rapidly with increases in the size of pieces being cast. Ideally, a part to be made as a shell molding should be light in weight in relation to its overall size. Large, massive pieces require thick shells which can become expensive, not only in materials, but also in handling because of their slower production. Too, heavy masses of molten metal are more likely to break the shells in which they are being cast.

At the other extreme, shell mold castings should be over one-half lb. in weight in metals other than aluminum and magnesium. Sizes smaller than these are likely to create problems in pouring the molten metals. Extremely small sizes also lead to difficulties in making and handling shells.

In developing a balance sheet of advantages and limitations for

shell molding it can be seen that the former are definitely more numerous than the latter. For this reason, it is relatively safe to predict that as the years pass and the process becomes better known, shell molding will grow into one of our most important manufacturing processes.

First, consider the advantages of shell molding:

1. Exceptionally fine surface finish can be attained on shell mold castings.
2. Close dimensional tolerances can be held on castings.
3. Thin sections can be cast.
4. The insulating effects of the shells permit metal to flow through relatively long, narrow passages.
5. Casting defects, both internal and external, are held to a minimum.
6. There is a high degree of uniformity from casting to casting.
7. Machining on castings is held to a minimum. Usual machining allowances are in the nature of a few thousandths of an inch.
8. Because of inherent cleanliness of castings, machining is easy and tool wear is minimized.
9. Design details can be accurately reproduced.

Although they are not of direct concern to purchasers, there are some basic foundry advantages in shell molding that have a profound effect on ultimate costs. They include:

1. Mold costs are low because they can be produced automatically.
2. Casting defects are drastically reduced, in some cases to the point where rejects are almost completely eliminated.
3. Metal yield is higher since there is a lower rejection rate and because less metal is required for gates, sprues and risers.
4. Molds can be stored indefinitely, permitting several months' supply to be made at one time, if desired.

Among the inevitable limitations, or minus values, of shell molding, these are to be considered:



Twice as many aluminum castings, at lower unit cost, resulted when a chain link fence maker decided to do his own shell molding.

Photos courtesy of Bakelite Company, New York, N. Y.

1. Pattern costs. Small patterns made to reasonably close dimensional tolerances cost \$600 or more. Costs are built up by surface finish requirements and the fact that the pattern must be so made that its surface can be heated uniformly to moderately high temperatures.
2. Restricted intricacy. Castings can not be quite so complex in design as those made by sand or investment casting.
3. Materials limitations. At present the process is not satisfactory for low carbon steels, one of the most widely used metals. However, surmounting of this obstacle is to be expected any time.
4. Shell costs. Materials, primarily plastics, used in making shells are expensive, shells can be used only once, and the materials cannot be reclaimed for further use.

Most of these limitations result in higher cost per pound for raw castings than is the case with sand casting. Such a figure should not be accepted blindly, though, because if shell molding has been properly selected it is likely that this cost differential can be more than overcome and likely converted to an overall cost advantage.

There are no hard and fast rules to help determine the suitability of shell molding. Nor can

one turn to any one other process and seek products which would seem to be conversion prospects.

One of the best guideposts which lead to apt shell molding applications is the amount of machining required on a product and its overall cost. If the machined shape can be cast and the casting endowed with other required properties, then it is likely that shell molding can be adopted—and with a profit.

Here a few examples:

One part had been made from mild steel plate by machining. Tolerances were relatively liberal. Made as a shell molded ductile iron part, the manufacturer realized a 65 per cent savings on a total run of less than 1000 pieces.

A complicated stainless steel part had been made as a sand casting and required 28 hours of hand grinding and machining before it was ready for use. Now it is made as a shell molding with a net cost reduction of 75 per cent.

Another alloy steel part, formerly made as a forging, cost 67 per cent less as a shell molding.

High conductivity copper castings were made as shell moldings and had better electrical conductivity than their counterparts made by other methods. Savings were so spectacular as a result of the conversion that a 30 per cent price cut was possible.

- Set Inventory Standards
- Get Rid of Surplus
- Standardize When Possible
- Use Modern Sales Methods

A 4 Point Program to

By Dean S. Ammer

ALTHOUGH IT'S one of the largest and most efficient companies in the textile industry, J. P. Stevens & Co. annual report shows that it earned less than a 3 per cent return on sales last year and just over 4 per cent on net worth. "It's been mighty tough to make a fair profit in our business," says Furman Pinson, manager of Stevens' supplies and equipment purchasing department. "That's one big reason we find that purchasing for our company is such a challenge. Because margins are so tight, every purchase action you make can have a significant effect on company profits," he explains.

Pinson's department, located in Greensboro, N. C., serves all of 43 Stevens mills in the South and New England. It issues about 75,000 purchase orders per year worth about \$35 million to around 3000 suppliers. "And we do this job with a total of just 26 people," Pinson declares. "We've got to keep tight control on overhead," he explains. "While the company has added more than 20 mills for us to serve in the last ten years, we've been able to get along with just two more people in the purchasing department."

Don't think, however, that Stevens purchasing has been "penny-wise" in holding back on additional personnel and "pound-foolish" in neglecting the big profit-making opportunities. Pinson's highly successful "four point" inventory control program is ample proof that Stevens purchasing is a value conscious organization.

"Inventory control is a challenge in any organization," says Pinson. "But in our company, I

think it's particularly challenging. In the first place, our profit margins are so thin that we just can't afford to have any extra 'fat' anywhere that we don't absolutely need. Second, remember that each of our mills uses an average of 4500 different items and there are 43 mills. As a result there's a lot more opportunity for excess stock to accumulate than if we operated entirely under one roof."

For these reasons, *Stevens makes a good case study of how consistent use of common-sense, scientifically-sound methods can cut waste in inventory and boost profits.* The four point Steven's program includes:

1. Setting-up standard inventories for each plant as bogies.
2. A surplus disposal program to shake loose stocks that aren't needed.
3. A plant-by-plant standardization study to reduce the number of items carried in inventory.
4. A missionary program to sell plant people on purchasing's program and make them conscious of its benefits.

Setting Standard Inventories

Order Formulas. J. P. Stevens doesn't use any fancy inventory control formulas. It believes the program can only be effective if the supply foremen in the mills understand what they're supposed to do. They can understand the Stevens system. The purchasing order formula (which is reproduced in this article) is simple. The only variable is total yearly usage in dollars, and there are six classifications ranging from usages of less than \$20 to those greater than \$5000. The formula gives the quantity to order plus the reserve

for each of the six classifications. For example, if the annual usage is between \$20 and \$100, a six months' supply should be ordered and at least 60 days reserve stock should be maintained.

It's easy to figure out when to order. You do it whenever your stock level reaches the amount required for reserve plus an added amount to allow for purchase lead time. For example, if the required reserve is 60 days stock and purchasing needs 30 days to get delivery on the material, then the order point is reached when stock drops to a 90 day supply.

Stock Records. Each mill maintains perpetual inventory cards of stock items. In addition, consolidated records for the important items are maintained by Pinson's department in Greensboro. There's nothing fancy about the Stevens inventory card (which is illustrated elsewhere in this article). But it does the job. It shows yearly usage in number of items, cost, and yearly usage in dollars. And there's space to record receipts and issues and balance in stock. In other words, the card has all the information on it that's needed to use the order formula.

Setting the Standard. The first step in setting a standard inventory is to figure out what maximum inventory should be. Stock of any given item reaches maximum level when a new shipment is received. At that point, it's equal to the quantity ordered plus the reserve stock.

A plant's maximum theoretical inventory is the sum of the maximum inventory figures for all the individual items. To reach this theoretical maximum, all individual stocks would have to be re-

Slice the Fat From Your Inventories

plenished on the same day. (Otherwise, of course, inventories of some individual items would be below peak levels.) So it's safe to assume that if a plant's actual inventory exceeds this theoretical maximum, it's too high.

In actual practice, of course, stocks of individual items are replenished pretty much on a random basis. On any given day, a few items are down to reserve stock levels and a few are at maximum stock levels (equal to total reserve plus quantity just received from an order.) Most items, of course, are at neither maximum nor minimum levels. If we assume constant usage, *average inventory is about what it would be half-way between order points. It's about equal to the total reserve stock plus half the total value of the quantities ordered.*

This average inventory becomes the standard inventory. Theoretically, if there's no "fat" in the inventory, it should be approximately this average. Since there's plenty of fat in most inventories, this approach can lead to a program designed to bring stock levels into line with standard. "The big advantage of this approach," says Mr. Pinson, "is that it's straightforward and easy to understand."

"Actual inventory can be figured by tabulating the balances on the inventory cards. Total order quantity, reserve stock, and maximum inventory are equally easy to figure. You just use the cards in conjunction with the purchasing order formula." A theoretical example is illustrated in this article. Actual inventory of \$185,477 even exceeds the maximum theo-



J. P. Stevens' Purchasing Manager Furman Pinson finds visual aids helpful in his talks on inventory control and standardization. Mr. Pinson is also active in N.A.P.A. standardization programs. He's currently serving as chairman of the Fifth District National Committee on Standardization.



Assistant Purchasing Agent Paisley Boney and Staff Assistant Jim Lybrand III review progress on the J. P. Stevens standardization program.

How to Maintain Tight Inventory Control

INVENTORY CARD

PART NO.	DESCRIPTION	BIN NO.			
L-89074	RETAINING SPRING	843			
VENDOR	UNIT PRICE	QUANTITY TO ORDER	ORDER POINT	YEARLY USAGE NO.	AMOUNT
1. DRAPER	.22	66	33	132	\$29.04
2.					
3.					

DATE	RECEIPTS	ISSUES	BALANCE
3-24-57	66		66
5-31-57		6	60
6-29-57		12	48
8-4-57		8	40
9-5-57		10	30
9-16-57	66		96

Keep Good Records. The perpetual inventory card is the most basic form in an inventory control system. It should provide a history of usage, show stock currently on hand, and incorporate all other pertinent information about the item.

PURCHASING ORDER FORMULA

YEARLY USAGE	QUANTITY TO ORDER	RESERVE	WHEN TO ORDER
LESS THAN \$20.00	12 MO.	60 DAYS	RESERVE
\$20.00 to \$100.00	6 MO.	60 DAYS	STOCK
\$100.00 to \$500.00	4 MO.	60 DAYS	Plus
\$500.00 to \$2000.00	3 MO.	60 DAYS	DELIVERY
\$2000.00 to \$5000.00	2 MO.	30 DAYS	TIME
over 5,000	1 MO.	30 DAYS	

Order Systematically. Average inventory levels depend upon usage and value of the item. These variables can be determined from the inventory card. Apply them to a formula and economic ordering principles are automatically followed.

retical inventory of \$143,245 and is way out of line with the standard of \$98,548. Though theoretical, this example is realistic in that it proves there's plenty of room for improvement.

Shake Out Surplus Stock

Hidden Gold. In actual practice (maybe even in your own plant!) you'll frequently find actual stocks exceeding their theoretical maximums. How is this possible since it's supposedly impossible to exceed the theoretical maximum? The answer to this question, of course, is surplus. Most plants carry a lot of obsolete items in inventory. A machine is sold but no one bothers to get rid of the spare parts that were stocked for it, etc. Even more common are the cases where usage changes for one reason or another and 3 months' inventory becomes 30 months' inventory. And, of course, the "pack rat" instinct isn't confined to rodents.

Painless Procedure. The big problem with surplus stock is getting someone to do something about it. The typical attitude in

most plants is to sit back and hope that the problem will solve itself. Maybe usage will pick up again; maybe some one will find a new use for the obsolete item; maybe. . . . So nothing is done. And more and more obsolete items fill up valuable storage space. And inventories creep upward.

At J. P. Stevens, the solution to the problem of obsolete items (besides the "missionary" program which we'll discuss later in this article) is a streamlined procedure that makes it as painless as possible for store room foremen to report surplus.

If you think this an elaborate, involved procedure, you're way off. (Remember Stevens has got to watch administrative overhead, too.) Surplus is handled with a single 3x5 form. The mill makes up a form for each item that becomes surplus. There are three categories of surplus items: "active," "inactive-but-not-obsolete," and "obsolete." It's important that the mill check the proper category on the form because purchasing handles each a little differently.

Three Approaches. On "obso-

lete" items, purchasing gets the best deal it can. If the item is obsolete in all the Stevens plants, purchasing gets in touch with the original supplier of the item to see if he has any use for it—or if he knows someone who does. Then it gets in touch with used machinery dealers, or it might contact other textile companies if there's a possibility one of them can use it. "By shopping around, we're often able to get a lot more than scrap price out of an item that we have no use for," reports Bob Gilreath who is in charge of surplus disposal for Stevens.

On "inactive-but-not-obsolete" items, purchasing is less ruthless. These are items that the mills haven't used in the last 12 months but will use at some unforeseeable time in the future. So it's silly to sell them at scrap value; there's a definite limit to the loss it pays to take on them. At Stevens, this limit is 25 per cent. If none of the Stevens mills can use the items, purchasing will sell it to an outsider only for 75 per cent or more of the original purchase price.

CALCULATION OF STANDARD INVENTORY

Yearly Usage	Items	Quantity to Order	Reserve Stock	Maximum Inventory
Less than \$20.	1559	12 Months \$ 8,117.	60 Days \$ 1,357.	\$ 9,474.
\$20. to \$100.	583	6 Months 13,971.	60 Days 4,711.	18,682.
\$100. to \$500.	248	4 Months 17,287.	60 Days 8,591.	25,878.
\$500. to \$2,000.	79	3 Months 18,549.	60 Days 12,367.	30,916.
\$2,000. to \$5,000.	19	2 Months 9,288.	30 Days 4,644.	13,932.
Over \$5,000.	12	1 Month 22,181.	30 Days 22,181	44,363.
	2500	\$89,393.	\$53,851.	\$143,245.
Actual Inventory		\$185,477.		
Recommended Maximum Inventory		\$143,245.		
Recommended Standard Inventory		\$ 98,548.		

Weed Out Surplus. The most effective way to bring actual stocks into line with standard is to get rid of the surplus. Do it by reporting surplus promptly and accurately so purchasing can intelligently dispose of it.

Set Inventory Standards. Following the purchasing order formula, calculate maximum inventory levels. Then take half the total value of the quantity to order and add it to reserve stock. This is average inventory and it becomes the standard to compare with actual.

PART NO. & DESCRIPTION (ON LINE ABOVE)						QUANTITY SURPLUS
VENDOR						
PLANT						
PRICE						
ACTIVE () INACTIVE BUT () OBSOLETE () CHECK ONE NOT OBSOLETE						
FOR PURCHASING DEPARTMENT USE ONLY:						
NO.	TRANS. TO	DATE	NO.	TRANS. TO	DATE	

On "active" items, purchasing is even more conservative. These are the items that are still being used. They're surplus only because there's temporarily too much stock on hand. So purchasing can rarely afford to dispose of these at less than cost. In fact, the usual outlet for an "active" item that becomes surplus is another Stevens mill. Sometimes they're also sold at cost to other textile companies or back to the original vendor.

Key to the System. When purchasing receives the 3x5 forms reporting surplus from the mills, it immediately checks them against its purchase record cards. Most items purchasing buys for more than one mill. And what is surplus at one mill may well be useful at another mill.

When the purchase record indicates that the surplus item might be used at another mill, the surplus reporting form goes into a special file broken down by commodity classification. All incoming requisitions are checked against this file. So when another Stevens mill eventually sends in

a requisition for the item, purchasing doesn't buy it from outside source. Instead it issues an interplant purchase order to the mill that has the surplus. This helps keep down over-all inventory and also reduces waste.

Standardization Cuts Stock Levels

"We're just getting into standardization," Pinson admits. "You can't really get good standardization program until after you've got your plant people sold on the virtues of good inventory control, and they're surplus conscious. We're at that stage now, I think, and that's why we're going to be getting into standardization at every one of our mills."

Pinson is tackling standardization on a mill-by-mill basis. His staff assistant, Jim Lybrand III, is working directly with them on classifications of each item in inventory. (While he's at it, he's making a thorough check for possible surplus items.) "The most profitable category so far," says Lybrand, "has been maintenance

items. For example, at one mill, we found we were using five different kinds of files. Even if we can't cut this to a single type of file, we surely should be able to get along with two or three types."

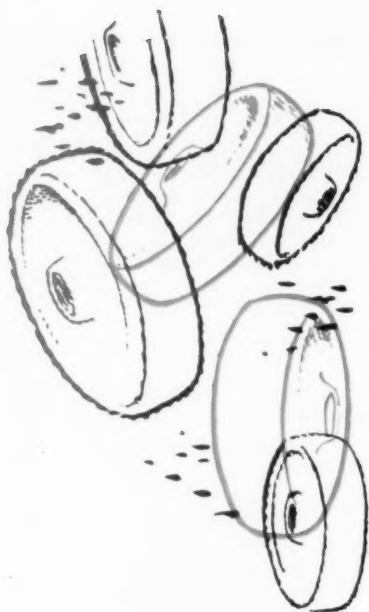
The first mill that's been tackled on standardization has already eliminated 500 different items from inventory. "Brake fluid is a good example of how standardization saved us money at that mill," Walsh recalls. We used to use three brands; each department head had his favorite. We got everyone together to agree on a single brand—and we now carry two less items in inventory."

Purchasing's Hard Sell

Although the standardization program is still in its infancy, everyone in the Stevens purchasing organization is convinced that the opportunities are tremendous.

As in any other well run organization, J. P. Stevens purchasing can't get results by dictating to people in the mills. It must get them to cooperate on inventory control because they're convinced

(Please turn to page 147)



Want to Speed Inventory Turnover? Just Put It on Wheels

Purchasing did more than its part in a company-wide cost reduction program. Its ideas helped release 40,000 sq. ft. of floor space for profit-making activity and cut inventories by \$100,000.

By C. D. Francisco



Wheels are sample inspected while unloading directly from delivery truck. Conveyor takes them to top of silos just outside.



IT'S NO SECRET that it's getting tougher and tougher to maintain an adequate profit margin. The Rapids-Standard Co. of Grand Rapids, Mich. discovered one route to lower costs and bigger profits lay in applying the products of its own industry—materials handling equipment. And purchasing was able to make a major contribution.

Rapids-Standard is a small company with 385 employees. Five years ago it put a big chunk of its working capital into a new plant equipped with the latest automatic equipment and tools. With the set-up, men and machines had plenty of room to work. Management was certain that elimination of the crowded conditions which had been the cause of past inefficiencies would mean lower costs. Instead costs were higher.

Management was determined to do something about the problem of high costs. So it embarked on a concentrated cost reduction program. Every employee was involved and the program rapidly began to look like a crusade. Even a slogan—*Technics*—was coined to help generate enthusiasm. *Technics* means the art of

Order processing, production control and traffic occupy floor space formerly required for central stores.

making machinery and equipment pay a profit instead of merely saving labor for the laborer.

Purchasing, in particular, soon found itself right in the middle of the problem of applying the principle of *Technics*.

With the increased production possible with the new plant, inventories had climbed. Purchasing was accused of speculating instead of operating. Profits still looked bad. Central stores was bulging. And ominous rumblings of crowded conditions began to be heard again.

Time for drastic action now! Another plant expansion conservatively estimated at \$300,000? Management said "No, we can't afford to live with this problem any longer, we've got to solve it."

Purchasing Vice President Bob Gunnell knew that somewhere in the materials area was an answer, maybe the answer. For represented in annual purchases approaching \$5 million are some two thousand different standard and special items.

Portable Storage Racks

With the cooperation of others on the management team, V. P. Gunnell attacked the inventory problem. Says Gunnell, "We needed a little of everything just to handle day-to-day production. But we also need a bigger supply in reserve, in central stores. To cut our inventory we had to aim our guns at central stores."

First, optimum inventories were figured. Then materials handling people devised storage racks on wheels, (the same wheels used on the company's products.) The loaded storage racks were arranged in perimeter, at point-of-use. This released space, badly needed space. It also provided automatic first in-first out inventory control.

It insisted that suppliers pack shipments in containers that could be used in the plant. This eliminated rehandling in receiving.

In addition, suppliers now ship many items in tagged or labelled containers that eliminate handwritten requisitions on the storage line.

For example, suppliers formerly shipped large bags of spacers



Taking inventory is simple. Items in tote boxes are pre-counted, identified by numbers on "hatch" openings. Boxes are slid in this side, used directly at assembly on opposite side.

which they stored on pallets in the central stockroom. **One man in assembly had to write out as many as 17 requisitions daily for only 27 different items.** The stockroom then counted out the spacers and later delivered them to the production line.

Now suppliers put a pre-determined number of spacers in each bag, and tag it to show the part number and quantity. When the spacers arrive in the receiving room, each bagload goes into a separate tray along with the tag. The trays go into the flow rack on wheels, at point of use. When an assembly man needs spacers, he slides out a tray, removes the tag and drops it into a box. This tag takes the place of handwritten requisitions. Saves time, reduces mistakes. At inventory time, it takes just a few minutes to count the number of bins in the flow rack.

Outdoor Storage Saves

Wheels are by far the most important single item in the company's inventory. They used to take up a lot of storage space in the plant. Now they're outside in silos, saving more valuable manufacturing space within the plant. When the wheels are received, they're carried by cleated power

conveyor and dumped into the top of each of 9 silos located just outside the plant wall. An underground conveyor system brings them into the plant, right to where they are used in assembly. Should receiving inspection test indicate sub-standard wheels, an entire truckload shipment (100,000) of wheels can be easily removed and returned to the manufacturer.

Similar changes worked out in various sections of the plant helped release a total of 40,000 square feet (including central stores) in the 120,000 square feet plant.

Does purchasing contribute to profits? We asked Rapids-Standard Treasurer Gene Hummell about this.—**"The cost of carrying inventory,"** says Treasurer Hummell, **is figured at from 5% to 25% annually, depending on who is doing the figuring. When purchasing helped reduce our inventory by \$100,000, we counted an immediate gain of \$8000 in additional profit just from recognized costs—interest on borrowed money, taxes, insurance, loss and damage, or obsolescence."**

Financial people like to talk in figures, especially when the figures are in black ink. And purchasing supplied a lot of the black ink to write the *Technics* story at Rapids-Standard.

Make Money With Mathematics In Purchasing

TOO MANY P. A.'s are missing the boat on one of the easiest ways to achieve spectacular reductions in cost. They're rightly concerned with **how much they pay** for goods and services, but they're not concerned enough about **how much they buy**.

The P. A. that says "I don't worry about how much to buy; inventory control is not my responsibility," had better ask himself if he's not trying to pass the buck. Purchasing is vitally concerned with how much to buy even when inventory control is not its direct responsibility since vendors pricing structures are usually designed to reflect changes in quantities purchased.

The fact is every P. A. should at least have a nodding acquaintance with the simple formulas that can help determine economic order quantity. In many cases, the formulas can be real money makers. They can be used to tell when to take advantage of quantity discounts; when to stock up in anticipation of a price increase; as well as the most economic ordering frequency for routine buys.

But before getting into the mathematical details (fortunately they're not as complex as the square-root signs would imply), let's first look at our basic problem. Although inventory control is a headache for most companies, there isn't too much to it—in theory at least. Good inventory control is a balancing of three variables—price, procurement cost, and carrying cost. With many commodities, only two variables

need be considered. The third—price—can be assumed constant. If price is not affected by change in quantity purchased or by market changes that can be anticipated, then only procurement cost and carrying costs need be balanced.

With just these two variables to consider, it's easy to generalize on what the order point should be. Procurement cost per unit (the cost of ordering and receiving the material) gets progressively lower as quantity ordered increases. Carrying cost (the total cost of carrying the average inventory) gets progressively greater as the quantity ordered increases. (See Figure 1.) *The economic order quantity is that quantity where procurement cost is just equal to carrying cost. At this point total cost is minimized.*

Though the principle is simple, the practice is more complicated. Procurement costs and carrying costs are not easy to estimate. Few of their components appear separately on books of account. Rather detailed cost studies are essential. They must distinguish between fixed and variable costs. *Only these costs which vary with volume of orders issued or amount of inventory carried should be considered.* For example, the cost of typing a purchase order should be considered part of procurement cost. The volume of purchase orders typed pretty much determines the need for typists. On the other hand, the purchasing agent's salary should not be considered a procurement cost. It's a fixed cost, and doesn't vary with the volume of purchase orders issued.

Elements of Procurement Cost. Procurement costs are all variable

costs incurred in getting a delivery of purchased material. They tend to vary directly with the number of deliveries made. For example, if receivals go from 50 per day to 100 per day, then total procurement costs should just about double. Procurement costs vary from \$5-35 per order placed. They can be determined only by a special study which should take into account the following costs, in particular:

1. Invoice processing.
2. Preparation of the purchase requisition, purchase order, etc.
3. Telephone, telegraph, postage, etc.
4. Accounts payable expense.
5. Receiving and inspection expense.
6. Traffic routing and transportation cost.
7. Moving of material into stores and related paperwork.

Elements of Carrying Cost. Carrying cost, as used in this article, does *not* mean the total cost of maintaining an inventory. Instead it should be an estimate of the variable costs of carrying the inventory. For example, if the carrying cost on a \$1,000,000 inventory is 10 per cent of \$100,000 per year, it should also be 10 per cent of \$50,000 per year on a \$500,000 inventory. This means that the estimate of carrying cost should not include any fixed cost. Depreciation on a warehouse, for example, would not normally be included in carrying cost—as long as there's no need to go out and rent additional warehouse space for the added inventory.¹

This article is adapted from material on mathematical aids to inventory control prepared by Dr. S. Reed Calhoun and Paul E. Green of the Operations Research Department, Lukens Steel Co., Coatesville, Pa.

1. If you cut your inventory 50 per cent, you should cut your carrying cost 50 per cent. But if you included a fixed cost like depreciation of a warehouse in your estimate of carrying cost, this will not be the case. Depreciation of a warehouse is the same regardless of whether the warehouse is full or empty.

The formulas are simple; the mathematics are high school level. But the results can often be spectacular. There's often no other way to cut purchase costs three or four per cent without getting a single vendor to cut prices.

Carrying cost varies from 6-20 per cent of average inventory value. Its important elements include:

1. Cost of capital.
2. Insurance.
3. Taxes.
4. Spoilage.
5. Obsolescence.
6. Storage (if applicable).

Simple Calculations

Once you've figured your procurement cost and carrying cost, you could graphically plot them (as in figure 1) and determine economic order quantity. This is the hard way to do it however. Simple formulas (the only thing that's tricky is the square-root) can do the job more easily. To illustrate let's use the formula

$$Q = \sqrt{\frac{2YS}{CI}} \text{ Let:}$$

I (the carrying cost) = 10% or 0.1

S (the procurement cost) = \$20 per order

Y (the annual usage) = 10,000 units

C (the cost per unit) = \$5

Substituting numerical values into the formula,² then

$$Q = \sqrt{\frac{2 \times 10,000 \times 20}{5 \times 0.1}} = \sqrt{800,000} = 894 \text{ units}$$

2. There are three easy ways to derive square root. (In addition, to the hard way learned in 8th grade arithmetic class.) 1) Find the logarithm of the number, divide it by two, and then find the number that belongs to that logarithm. 2) Use a slide rule. 3) Use a calculator or computer. The Friden desk calculator, for example, can be used to derive square roots.

3. Note that the average inventory (excluding safety allowance) is always half the order quantity. When, as in the example, the order quantity is 894, then the average inventory is 447. This is explained, in detail, in the box "It's Easy to Calculate Average Inventory" which appears in this article.

Therefore, the economic order quantity is 894 units; in practice, you'd probably round this off to 900 units. With a usage of 10,000 units per year, there would be about 11 orders per year or one order every 4.6 weeks.

Handling Quantity Discounts

So far, we've assumed that unit price and freight costs are constant regardless of quantity ordered. This, of course, is unrealistic. Using the above example, let's now assume that we get a 20¢ discount per unit (on either freight or quantity, it makes no difference) if we buy a minimum lot of 2000. By buying the bigger quantities, we of course reduce our procurement cost. But we increase our carrying cost. Our average inventory (exclusive of safety allowances) rises from 447 units to 1000 units.³ To see

whether or not it pays to buy the bigger quantity, we compare the annual procurement costs and carrying costs in each case.

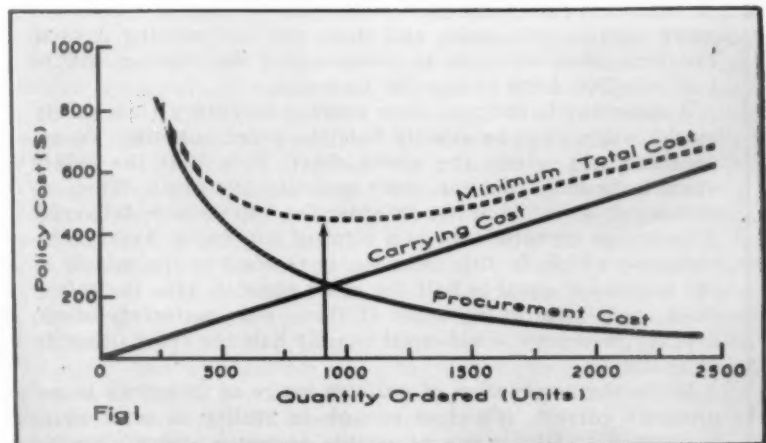
Annual Procurement Cost = Cost per Order \times No. Orders per Year.

Annual Carrying Cost (in \$) = Average Inventory \times Unit Cost \times Carrying Cost (as a %)

Total Policy Cost = Annual Procurement Cost + Annual Carrying Cost

In the original example, Total Policy Cost = \$20/order \times 11.2 orders/year + 447 units (in inventory) \times \$5/unit cost \times 0.1 carrying cost = \$447.80

Similarly, if we order in 2000 unit lots, average inventory will be 1000 units at a cost of \$4.80 per unit. And we'll need to order only five times a year to get our annual usage of 10,000 units. Total Policy Cost will then be: $5 \times 20 + (1000 \times \$4.80 \times 0.1) = \$580.00$



Economic order quantity can be determined graphically. It's the point where the curves of carrying cost and procurement intersect.

Thus, it costs us \$132.50 (\$580.00-\$447.80) per year in combined annual procurement and carrying cost to buy in lots of 2000. But we save 20¢ a unit on price or \$2000 a year (\$.20 × 10,000 units/year). Therefore, it pays to buy in lots of 2000 since we make a net saving of \$1867.50 (\$2000.00-\$132.50) per year.

Continuous Quantity Discount

On rare occasions, a vendor might charge a fixed sum (say B dollars) for every order placed plus a per unit price (P) in addition. For example, if B were \$25 and P were \$5, 10 units would cost \$75 or \$7.50 each. 20 units, however, would cost \$125 or but \$6.25 per unit. To find the economic order quantity, we must adapt our

basic formula. We can regard B as an addition to procurement costs since it must be paid every time an order is issued. And we can regard P as our purchase cost (C) per unit. Our formula becomes:

$$Q = \sqrt{\frac{2Y(S+B)}{PI}}$$

If as before, we let Y = 10,000 units, S = \$20, I = 10% and B = \$25, and P = \$5, then the solution appears as follows:

$$Q = \sqrt{\frac{2 \times 10,000 \times 45}{5 \times 0.1}} = \sqrt{1,800,000} = 1,342$$

Note that the fixed portion (B) of the vendor's price had the effect of increasing the economic order quantity.

Suppose you know that a vendor is going to increase prices immediately. The annual increase in steel prices is a case in point. How much should you buy ahead? To find out, you just use another variation of economic order quantity formula.

Beating Price Hikes

Let's suppose—going back to our original example—that we discovered that our unit price of \$5 was going up 5% to \$5.25. Without any expectation of price increase, our economic order quantity was 894 units per order. How far should we buy ahead now that we know that the price is going up? We can find the answer with another simple formula:

$$Q_{2s} = \frac{X Y_s + Q_{1s}}{(1 + X) I}$$

Q_{2s} is the new economic purchase quantity.

Y_s equals the old cost of the annual usage (10,000 units × \$5/unit).

I equals (as before) the carrying cost of 10% or 0.1.

Q_{1s} is the value of the old economic purchase quantity (894 × \$5/unit or \$4470).

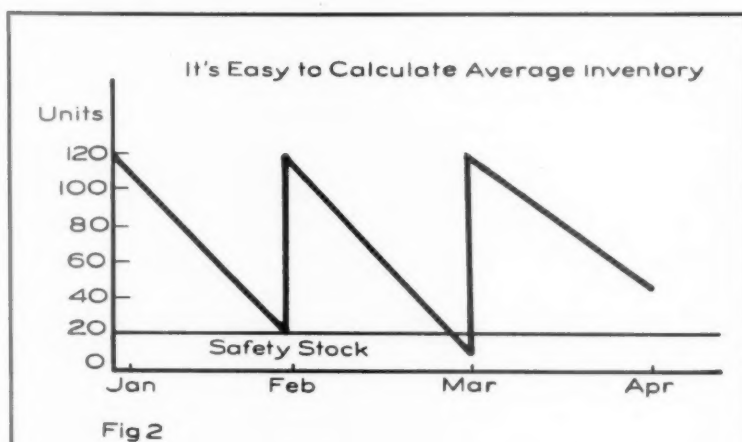
X is the percentage increase in price—5% or .05.

Substituting numerical values into the formula, we find:

$$Q_2 = \frac{(.05)(50,000)}{(1.05)(0.1)} + 4470 = \$23,810 + 4470 = \$28,280.$$

In terms of time, since the total value of our annual usage is \$50,000 at the old price of \$5, the new purchase quantity for \$28,280 worth of material will fill 28,280/50,000 or 56.9 per cent of our annual needs. This is about 29 weeks usage. We thus buy a 29 rather than a 4.6 weeks supply. With the new quantity, the increase in carrying cost of the higher inventory is just offset by the decrease in procurement cost and unit cost.

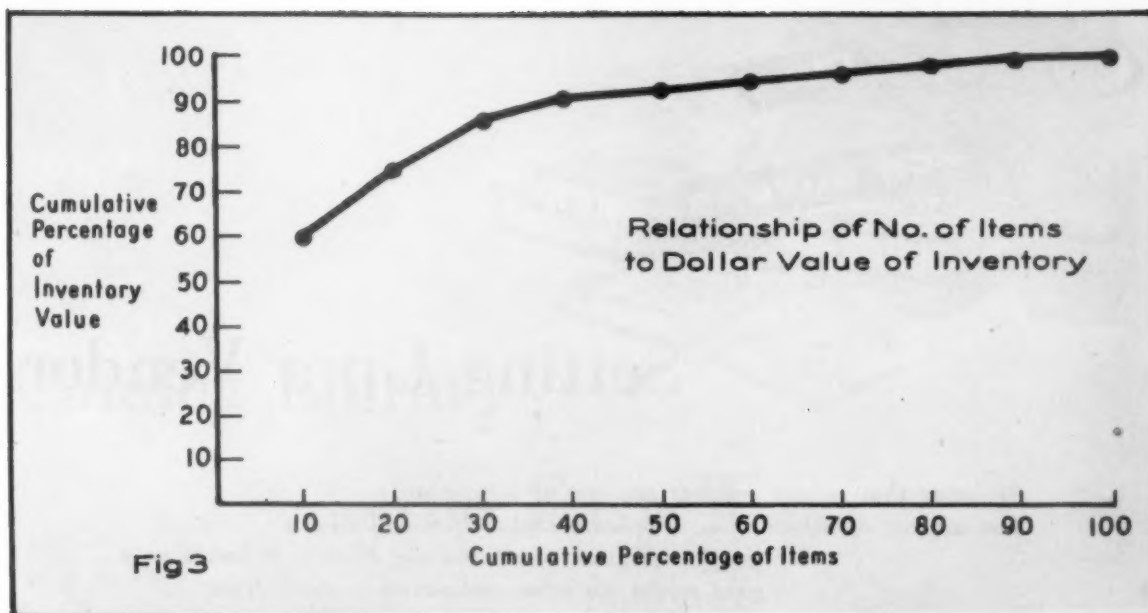
The above procedure is strictly a one-shot operation designed to permit the most economic "stocking-up" just before a price increase occurs. After we've used up the 29 weeks' supply bought before the price hike, we need to go back to the regular ordering cycle procedure at the higher



All the formulas developed in this article assume that stock usage is constant. There's no allowance for variation in daily usage nor is there any adjustment for seasonal variation. This, of course, is rarely the case in practice. If annual usage of a given item is 5000 units, and there are 250 working days in the year, then we have to assume that daily usage will be precisely 200 units to use the formulas.

When usage is uniform, then average inventory (less safety stock) will always be exactly half the order quantity. To understand why, study the above chart. Note that the safety stock is 20 units and the order quantity 100 units. When inventory drops to 20 units, an order for 100 units is delivered. This brings inventory up to a total of 120 units. Average inventory—which, in this example, is reached in the middle of the month—is equal to half the order quantity plus the safety stock, or a total of 70 units. If there were no safety stock, average inventory would equal exactly half the order quantity or 50 units.

While the assumption of uniform usage of inventory is not precisely correct, it's close enough to reality in most cases to permit profitable use of simple economic order quantity formulas.



Selective use of economic order quantity formulas gives good results because, as in this example, 20% of the items account for 75% of the total inventory value.

price. Thus, under the new conditions, corresponding to the original sample problem:

Y = 10,000 units
S = \$20.
I = 10%
C = \$5.25
Y = 50,000

Using our original formula:

$$Q = \sqrt{\frac{2 Y S}{CI}} = \sqrt{\frac{2 \times 10,000 \times 20}{5.25 \times 0.1}} = \sqrt{761,905}$$

therefore, Q = 873 units.

In view of the higher price, the reduction of the economic purchase quantity 894 units to 873 units is to be expected. With the higher price, we will place about 11.5 orders per on an ordering cycle of about 4.5 weeks. The value of each order placed would be 873 x \$5.25 or \$4583.25.

Making the Job Easy

The formulas that have been developed in this article cover most situations that would be encountered in actual purchasing practice. Of course, their use must always be tempered by judgment. But the P. A. who uses them skill-

fully will always do a better job than the P. A. who isn't even familiar.

The biggest single weakness of the formulas is that they require quite a bit of effort to use. It's not too easy to compute carrying cost and procurement. And the actual computations of economic order quantity can be time consuming. Nomographs and tables help; but they're good only if basic conditions don't change.

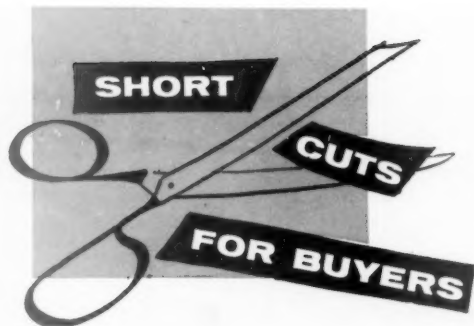
Fortunately, two important facts make the use of formulas much easier than it might otherwise be:

1. Estimates need not be too accurate. The square-root sign that scares many P. A.'s away from economic order quantity formulas is actually a blessing in disguise. It helps minimize the effect of errors made in estimating procurement cost and carrying cost. Suppose, for example, that you use a carrying cost of 15 per cent in the formula when the true cost is 10 per cent. You've made a 50 per cent error. But your answer will only be off by 18 per cent. Remember, in our original example, how we came up with an economic purchase quantity of 894 units. Try the formula, using a carrying

cost of 15 per cent, and you'll find you can come up with 730 units—a 50 per cent error in carrying cost makes for a much smaller error in purchase quantity. *So your estimates of procurement and carrying cost need only be approximations to be useful and effective.*

2. Selective Control is Highly Effective. Suppose you've got 10,000 different items in inventory. Chances are your economic order quantity program can be 80-90 per cent effective if you only use the formulas on 10-15 per cent of the items. The reason for this you probably already know. In every company, a relatively small percentage of the items carried in inventory comprise an overwhelmingly large percentage of dollar value of the inventory. (See Fig. 3). Not untypical is the case where 15 per cent of the items comprise about 85 per cent of the total dollar value of the inventory. If you work out formulas for just these high-value items, you're at least 85 per cent effective and will have to do only 15 per cent of the total calculating.

It's easier to use formulas than it appears. Why not experiment and find this out for yourself?



Setting Up a Vendor

Realizing that vendor catalogs are one of purchasing's best sources of information, Duquesne Light Co. established a simple, effective vendor catalog library. It serves as a good model for other companies to work from.

By Ned Kellogg

SETTING UP a library of vendor publications takes more perservance than genius. The trouble is that many purchasing departments haven't perserved. It's the kind of a job that's easily pigeonholed because there seem to be so many details involved that a lot of P.A.'s don't want to tackle the problem. Adding to the lethargy is the fact that there's no direct dollar and cents return that can be credited to a vendor publications library.

System Is Simple

The fact remains, however, that vendor publications are one of the best sources of information purchasing has. There aren't any purchasing departments that don't use vendor publications, but in many cases the department's library consists of catalogs sequestered away in buyers' desks and a sprawling collection of dust collectors helter-skeltered in a bookcase.

Working out a vendor publication library system isn't as difficult as it may seem, however. Case in point is the Duquesne Light Company, Pittsburgh, which

has established a simple, highly effective vendor publication library which has proved to be a valuable information source for the whole company as well as the purchasing department.

In essence Duquesne Light's Vendor publication library consists of three basic elements: (1) a commodity file, (2) a vendor name file (3) the publications themselves (catalogs, manuals, handbooks, technical references, directories, etc.).

Each catalog sent in by a supplier is given a catalog file number. For example the first catalog sent in by the "Proven Supplier Corp." might be given the file number P-2138. The "P" in this case stands for "Proven". The number means that the Proven Supplier Corp. is the two-thousand-and-one-hundred and thirty-eighth vendor to send in a catalog. (A master log is kept which contains the name and catalog file number of each new vendor who sends in a catalog).

As a result, P-2138 becomes the Proven Supplier Corp.'s basic file number. Any additional catalogs or publications that are sent in

by Proven Supply would be listed this way: P-2138-1, P-2138-2, P-2138-3, and so on and superseded publications are removed from the files.

Use Commodity, Vendor Cards

Each catalog received is indexed on both a vendor's name card (see Fig. 1) and a commodity reference card (see Fig. II). Both of the 3 x 5 cards are filed alphabetically in separate files—the commodity file, and the vendor's name file.

Information on the vendor's name card includes the vendor's name and the title of the catalog (or if it has more meaning, the general subject matter covered in the catalog). In addition, the vendor's own method of identifying the catalog is listed under the "Vendor's Publication No." category. Reason for including the vendor's own identification is so the catalog can be clearly identified in any correspondence with the supplier.

Also included on the vendors' name cards are the date the catalog was received and Duquesne Light's "vendors' code number".



Catalog Library

—the Easy Way



Howard Kerr's simple method of setting up a vendor catalog library makes it easy to find what you want.

When the cards have been filled out an identification sticker is attached to the catalog (Fig. III). The sticker is stamped with the catalog file number and is attached to both the front and the bound sides of the catalog. The catalog is then placed in its appropriate place in the bookcase. In the case of catalog P-2138, the catalog would be put in the "P" section in its correct numerical position.

Part Time Job

That, in essence is Duquesne Light's vendor publication library system. Simple, easy to use, it has enabled purchasing and other departments in the company to get maximum use from the more than 3000 publications it has on file.

At present the publication library is under the direction of the purchasing engineer, Howard B. Kerr, Jr., who, after setting up the system has been able to run it pretty much with his left hand. The clerical end of the library work—filling out the vendor and commodity file cards, making up identification stickers, etc., is han-

The code number is not the same as the catalog file number but is an identification Duquesne Light uses in connection with its Programmatic Flexwriter system. The code number, however, can be used to check the vendor's address by looking up the number in the purchasing department's "List of Vendors' Names and Addresses and Vendors Code Numbers" book.

The back of the card is used for "publication loaned" information. Included is the name and phone number of the person who

borrowed the catalog, the catalog file number and the dates the publication was loaned out and returned.

Identification Stickers

In addition to the vendor's card a commodity card (Fig. II) is also filled out. Only information on the commodity cards is the overall commodity classifications such as "transformers", the names of the vendors who have sent in catalogs relating to the specific commodity, and the catalog file number.

P 2138

Fig. 1

Fig. 11

dled on a part time basis by a stenographer.

Basic concept in running the library is that there should be a copy of every vendor catalog that might be of value to the company on file. This doesn't mean that buyers and engineers can't keep copies of the catalogs they use all the time, but there should also be copies of these publications in the library where everyone can get at them.

Vendors' manuals, handbooks, technical references and directories are processed in a manner similar to catalogs but with more cross indexing. Vendor advertising pamphlets, flyers and brochures, however, are kept in a separate folder filed by commodity but not by vendor.

filing them. A good vendor publication library should have only current publications of true value to the purchasing and other departments of the company.

After studying the problem Duquesne Light's purchasing department selected legal size bookcases with adjustable shelves for its library. It was found that this type of bookshelf is more versatile and has extra space at the top for odd size directories and reference books. The library also has a desk, chair and a safety ladder.

One annoying problem Duquesne Light faced in setting up the library was finding some way of fixing the catalog identification stickers to the various catalog binders. They tried pasting, glueing and taping them, but none of these methods worked. Finally they located a pressure sensitive label which is doing the job. To play it safe, however, the catalog number is also stamped in ink on the inside flyleaf of the book.

Duquesne Light's general purchasing agent, Dan Nesbit, is thoroughly convinced of the value of an effective vendor catalog library. He points out however, that there's no one system for setting up a library which is ideal for all purchasing departments. What might be an adequate library for one purchasing department wouldn't do the job for another—so much depends on the size of organization and the type of operations it's engaged in.

Best rule of thumb is to try to keep the library as simple as possible. It's up to the P.A. to establish the goals he hopes to achieve by setting up a catalog library. He can then determine how deeply he wants to get involved in library science.

One thing is certain, however. No matter how simple a vendor catalog library may be, it will be an improvement over the "somewhere in that pile" method used by many purchasing departments. A well-run vendor catalog library is one more tool purchasing can use to make buying more of a science.

Recently elected vice-president of procurement, Milton E. Morgan has quickly learned that better purchasing means better profits.



Purchasing Is a Selling Job Too

A good P. A. has got to sell himself both to his management and his vendors. He's also got to generate enthusiasm in his own department. Here's how an ex-salesman handled these "selling" jobs.

THE SUCCESSFUL purchasing man is a good salesman. Nowhere is this better personified than at the A. O. Smith Corporation in Milwaukee. Here, where 62 cents of the sales dollar goes for purchased materials and services, purchasing has to be a top notch profit maker. And a top notch salesman is using sales techniques to make this a reality.

Until March 1956, Milton E. Morgan was assistant general sales manager of the automotive division. Then management decided to revitalize the purchasing department. It picked Milt Morgan so now he's vice president of procurement.

In his selling days Milt Morgan has called on many a purchasing man. Knowing how important it is to get ideas across, one of his first jobs in purchasing was in the all-important area of communication — first within the purchasing department, then between purchasing and other departments. So he brought together the top purchasing people from their eleven plants for a two-day conference. This was an opportunity for cross-pollenization of ideas. And, for Morgan, a chance

to express his ideas on how a purchasing department should operate.

Conferences Successful

The first general purchasing conference was held in June 1956. The agenda was written on two sheets of paper. Nothing fancy. But the ideas that came out of that first conference were so stimulating that in November of that same year a second conference was held.

This time the agenda was made up in booklet form, with plenty of pages for notes. And this time it served another purpose. Using an old sales principle, Morgan put together a series of philosophical slogans. Short and to the point, these slogans are easily remembered. "Purchase for Profit." "Cultivate your source and harvest your savings." "Compare the Ware." "A product is not simply good, it is good for a certain purpose." These and other thought-provokers appeared at the bottom of each page of the agenda.

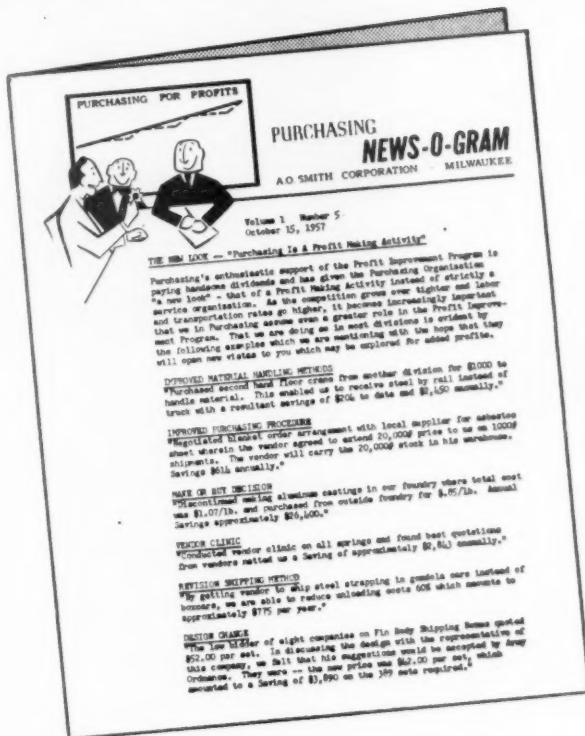
In May and October, 1957, two more general purchasing conferences were held. And the sales

campaign continued on the "Purchasing is for Profits." One after another, titles of talks contained the word "profits." "How purchasing can lead the way to bigger profits"; "Increasing profits through engineering-purchasing teamwork"; "Paring costs for profits"; "Motivation and profits"; "Plastics — present and future profit potential." And all through these conferences, Milt Morgan has been teaching purchasing people how to sell their ideas to their bosses, to other departments, to suppliers, and to others who work for them and with them.

That's one reason why he brings into the conferences specialists from every available facet of their operation. Subjects presented have ranged from "Creative Thinking and Brainstorming" to "A. O. Smith Quarterly Operations and Factors Affecting Future Profits." At their most recent conference, the chief engineer described the part purchasing plays in corporate engineering policy.

Having been in sales, Morgan knows that enthusiasm must be constantly re-kindled. So to prevent a let down between confer-

News-O-Gram brings widely dispersed purchasing people closer together.



As the agenda broadened, the program booklet got more elaborate. This is the latest one.

AGENDA—GENERAL PURCHASING CONFERENCE

June 5 & 6, 1956

Milwaukee, Wisconsin

Tuesday, June 5

8:15 a.m.	7th Floor Auditorium, Research & Engineering Bldg. Welcome	M. E. Morgan
8:30	"What Management Expects Of Purchasing"	F. S. Cornell
9:00	"Purchasing Policies & Operations"	M. E. Morgan
9:45	Coffee Break	
10:00	"Purchased Quality"	R. M. Hislop
10:30	"Search For A Better Way"	A. O. Smith Film
11:00	Chart Presentation	M. E. Morgan
	"Equipment Purchasing"	F. Mackey
11:40	Lunch	
12:40		
1:00 p.m.	Purchasing Film	
1:30	"The Personal Side"	R. A. Dingman
2:00	"Rising Costs"	P. D. McManus
2:30	"Are Our Purchases Safe?"	E. C. Woodward
3:00	Coffee Break	
3:15	"Marketing & Purchasing"	S. E. Wolkenheim
3:45	"The Purchasing Man's Role As A Member Of The Management Team"	C. E. Heitman

ences, he publishes a monthly news and idea bulletin called Purchasing News-O-Gram. In it one can read about what all the purchasing operations are doing for profit improvement. Not only are the News-O-Grams loaded with ideas, but they contain stories about individual accomplishments in the community and announcements of general interest.

Morgan's program has paid off. It's easy to spot the enthusiasm that has been stimulated in A. O. Smith purchasing people. And to find out how well purchasing was sold to top management, all you have to do is talk to Morgan's boss, Executive Vice President F. S. Cornell. "Our purchasing organization is contributing vitally to the solution of the problem of unsatisfactory profits in the face of rising sales," says Cornell. "Because of its importance, purchasing is an integral part of the management team. It is kept informed of policies and long range objectives, participates in the earliest stages of our planning, and has a clear line of authority with a voice in top management."



Dollar-wise buyers
save money with

NIBROC®

THE BALANCED TOWEL



Whatever your preference, your dollar buys maximum value in Nibroc towels. Choose from Nibroc in the natural shade (multi-fold and single-fold) and Nibroc white in the new "white magic" finish (multifold and C-fold).

Why do Nibroc towels mean extra savings for you? Because no other towel combines in such perfect balance these three essential qualities—absorbency, wet strength, softness. Lint-free performance, too. And you save even more when you buy with Nibroc Sofwite® or Softan® tissue. Look under "Paper Towels" in Yellow Pages for name of nearest distributor. Or, write Dept. GN-3, Boston.

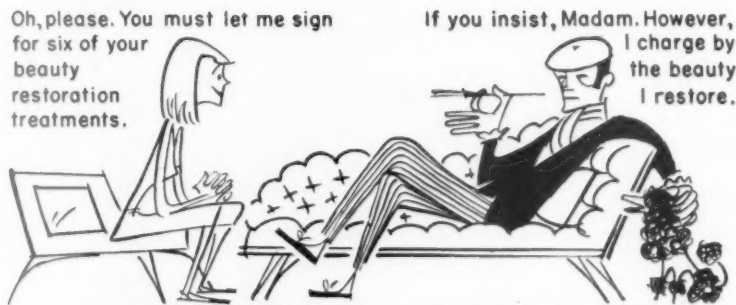
BROWN  COMPANY

150 Causeway Street, Boston 14, Mass.
Mills: Berlin & Gorham, New Hampshire

Unpriced Contracts: When Are They Binding?

You may be making unpriced contracts which are not binding. It depends upon the provisions for future price determination.

By Albert Woodruff Gray



THIS CONTRACT ISN'T BINDING. SINCE FUTURE PRICE FIXING IS LEFT TO THE WHIM OR WISH OF SYLVESTER SHYSTER, THE CONTRACT IS VOID AND UNENFORCEABLE.

PPRICE PROVISIONS in a contract between a Wisconsin automobile dealer and a manufacturer were, "Company will sell its products to dealer f.o.b. Detroit, Michigan, at such net list price or at such discounts from published list prices as are from time to time fixed by the company. 'List prices' of all products shall be subject to change at any time and from time to time without obligation on company to adjust with dealer as to price of any product shipped or paid for but not in transit at time such change becomes effective."

In litigation that arose later between these parties the contract was attacked by the purchaser, who contended that it was void since it failed to state the prices at which the goods would be sold in the future.

The Federal Court of Appeals in its decision against this contention and holding the agree-

ment valid and enforceable, said of such price provisions.

"The parties had been dealing with each other prior to the execution of the last contract. They knew of the practices of each other. The dealer knew that automobiles were redesigned and new models appeared yearly and as a result prices changed at least seasonally. The manufacturer's business was nationwide and its agents many. It was to this known situation that the contract referred. The parties negotiated with a background of past dealings and mutual knowledge of the practices of the trade. 'The net list prices and discounts from published list prices' were well known to both parties. These net list prices and published list prices were the same to all dealers. They changed as necessity required."

Here the court indicated the feature that determines the validity of contract provisions for fu-

ture price fixing. "They were not lacking in definiteness but provided a method whereby the prices could be definitely ascertained at any time."

In support of this conclusion, resting on the rule that there must be a method stipulated in the contract for the ascertainment of prices for future definition, the court here referred to a similar stipulation in a purchase contract of furniture. In this earlier instance sales had been made with a price stipulation by the seller, "Prices prevailing at the time of shipment" and that, "This order is accepted subject to prices in effect on shipping date."

When a lawsuit was brought later for the refusal of the buyer to accept delivery of furniture purchased under this agreement the defense was that set up in the automobile sales contract action, that in failing to set a fixed price the seller had made the contract unenforceable.

Future Fixing

"The contract did not specifically state the price to be paid for the goods on delivery. To constitute a sale the price need not be definitely fixed at the time the sale is effected if the agreement contains express or implied provisions by which it may be rendered certain. Whether the price to be paid was the market price at the time of delivery, as claimed by the purchaser, or the price fixed by the seller at its factory, the duty for determining the price was present and easily ascertainable."

When a few months ago a contract for the purchase of sugar beets came before a California court this difference was clearly set out between provisions for future price fixing with the means or measure for their determination agreed upon, whereby a

COMMON SENSE SIMPLIFICATION CUTS INVENTORY

● Reduce fastener inventory by simplifying usage requirements

● Lower your stock handling and purchasing costs, too

To take full economic advantage of "standard" fasteners, standardize their *usage*, too. The fewer types and sizes you can get along with, the lower your buying, stock handling and even assembly costs will be.

Case history: At one plant, the man tackling the job found more than 23,000 fastener items in inventory. Without need to consult anyone, he eliminated 1700 items immediately. With study, he figures to cut the rest in half.

Some suggestions: (1) Stock *only* one pattern of nut, not two or more, for each size bolt. (2) Use coarse threads almost exclusively; fine threads are seldom necessary. (3) Eliminate as many bolt lengths and diameters as feasible. Change a minor specification rather than add an in-between size. (4) Settle on

fewer materials. Two grades of steel satisfy most strength needs. (5) Specify fewer head styles for bolts and screws.

Much simplification can be done by common sense alone; much *more* with the help of a fastener engineer. Ask the RB&W Fastener Man to show you. Russell, Burdsall & Ward Bolt and Nut Company, Port Chester, New York.



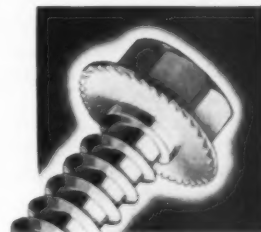
Plants at: Port Chester, N. Y.; Coraopolis, Pa.; Rock Falls, Ill.; Los Angeles, Calif. **Additional sales offices at:** Ardmore (Phila.), Pa.; Pittsburgh; Detroit; Chicago; Dallas; San Francisco. **Sales agents at:** Milwaukee; New Orleans; Denver; Fargo. **Distributors from coast to coast.**



Staked acorn nuts lock securely

Staking opposite sides of these RB&W acorn nuts deforms threads for a positive grip. It also puts middle of nut slightly out-of-round, for a spring tension locking effect. They're designed for applications such as outdoor furniture, where anchoring fasteners is more important than solid seating. Available in aluminum, steel, silicon bronze.

These all-metal nuts can also be furnished in double chamfered style. Since they lock with their middle threads, they can be turned onto screw from *either* side.



Tapping screws that lock into place

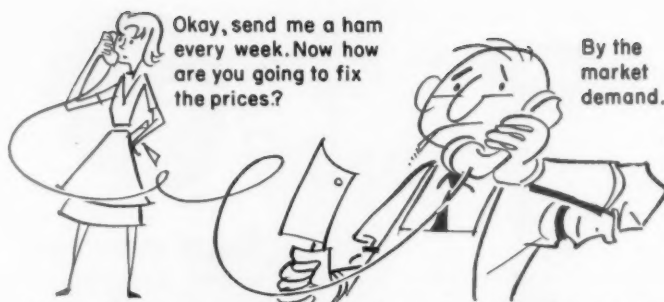
RB&W offers tapping screws with Spin-Lock® design. Hardened teeth on periphery of head lock into seat when screw is tightened. They resist backing off from vibration or thermal expansion and contraction.

In one case, continual heating and cooling had caused handle screws on certain flatirons to loosen. Every type tried failed to stay tight under these conditions, until RB&W's unique Spin-Lock tapping screws were installed. That did it.

Spin-Lock screws are available with flat heads or hex heads, and are reusable. Send for bulletin.

RB&W FASTENERS—STRONG POINT OF ANY ASSEMBLY

For More Information Write No. 209 on Inquiry Card—Page 32



IT'S LEGAL TO SET A PRICE BASED ON "MARKET" AS LONG AS THERE'S A PROVISION BY WHICH THE PRICE CAN BE DETERMINED AT ANY GIVEN TIME, THE PRICE NEED NOT BE FIXED AT TIME OF SALE

purchase contract is valid, and those instances in which it is lacking or left to the option, whim or wish of one of the parties, rendering the contract void and unenforceable.

Here the agreement was that the purchaser should determine the price to be paid the seller. "It could sell at any price and under any condition," said the court summarizing this agreement, "and be responsible only for sums actually realized from the sale, make deductions according to its system of accounting and conclusively verify its methods and conclusions by accountants of its own choice."

Fatally indefinite, the contract lacked either a statement of the price to be paid or provisions for its ascertainment.

Market Price Okay

"We do not mean to infer," said the court, "that a contract may not relate the purchase price to an ascertainable market price. An agreement of such a nature would be enforceable. The general rule is that where the price of the goods is to be fixed in relation to a commercial quotation of a designated market or to the price set by a dominant seller of the particular kind of goods on a certain day or on delivery, the provision controls if there is such a quotation or price set, but in the absence of such a quotation or set price the contract is inoperative to the extent that it remains executory.

"In a number of cases holding contracts enforceable the purchase price was based on 'cost of production', 'net list price', 'average

net high price', 'manufacturer's list price', 'tank wagon price', 'list price' and comparable phrases. These contracts are distinguishable from the one involved here, however, for in each the price was ascertainable with certainty on the date of delivery of the commodity."

This same question of law was involved in a case before the United States Court of Appeals a few years ago. In that instance the acknowledgment of orders by the seller had been stamped, "All prices are subject to adjustment to prices in effect at time of shipment." Here again the agreement was unenforceable. "A contract for the future delivery of personal property is void for want of mutuality if the price is conditioned entirely on the will of one of the parties," was the court's incisive comment.

Seller Can't Fix

This decision had followed one rendered by the same court a short time before. There a purchase contract for 8500 electric irons had been involved, with the stipulation that, "The prices and terms shall be as shown in the company's current price and as established from time to time by the company. Prices and discounts are subject to change without notice."

Here again prices had been left like the tomb of the prophet—between heaven and earth. "The contract in its nature and character and according to the intention of the parties should involve and impose a reciprocity of obligation and duty. And it is horn book law that to make a valid executory

contract there must be at least two parties capable of contracting and both must be bound thereby. The promises of each must be concurrent and obligatory on both at the same time to render the promise of either binding. There can be no question that if this seller had such a contract it was essential to its validity that it should have been mutually obligatory upon both parties.

"Moreover, if we were to uphold the contention of the seller and sustain the contract, the contract would be a contract for the purchase and sale of irons at a price to be established by the seller alone. A contract for the future delivery of personal property is void for want of mutuality if the price is conditioned entirely on the will of one of the parties."

However in a purchase contract covering a twenty five year period, which was before the United States District Court a few years ago there is an outstanding example of price modifications that is well within the limits set by the courts on the validity of such arrangements.

Production Cost Okay

Here the stipulation for the future adjustment of prices was, "In the event the seller's cost of production of gypsum for any twelve month period during the term hereof shall increase five per cent above its average cost of production of gypsum for the preceding twelve month's period, then and in that event the seller shall have the right upon giving 60 days written notice to the purchaser, to increase the price payable hereunder for gypsum thereafter delivered hereunder in an amount not to exceed the actual advance in the seller's cost of manufacture; provided that in no event may more than one such increase be made in any one calendar year."

This was followed by a clause that the books of account and records of the seller of its production costs, should be available at all times to the purchaser.

Of the purchaser's contention in a suit involving this contract, that phrase, "cost of production" was too indefinite to sustain a valid contract the Federal court said, *For More Information Write No. 210 on Inquiry Card—Page 32—*



5 WAYS



TIME SCREW & MFG. CORP. finds KEYSTONE **XL** WIRE BEST!



No Surface Cracks

This is an insert for an engine rocker arm assembly. When cold formed from other wires, surface cracks appeared. Keystone "XL" Wire eliminated these cracks.

Maximum Head Spread

Here's a part formed to hold a rubber molding, where maximum head spread is demanded. Other wires cracked at the spread—Keystone "XL" Wire does the job.



100% Inspected

Time Screw inspects these engine tappets 100%. No fine line cracks on sides are acceptable. With Keystone "XL" Wire, rejection is less than 1/2 of 1%.

Double Extruded

To get the head of this automotive part to its desired size, Time Screw double extruded Keystone "XL" Wire. The head is about 10 diameters greater than the body.



Illustrated are five of the many ways Time Screw & Mfg. Corp., Rockford, Illinois, employs quality Keystone "XL" Wire to its best advantage.

As Leslie K. Pearson, Vice President of this progressive Rockford manufacturer, states: "We've found that Keystone 'XL' Wire can be used on any job, no matter how difficult."

Flexibility is the secret, and the key, to the amazing adaptability of Keystone "XL" Wire. Its versatility is recognized by wire users who have turned to Keystone for assistance in solving their tough jobs. Next time you are confronted with a wire problem, call your Keystone Wire Specialist. You'll find him—as well as all members of the Keystone organization—ready and willing to assist you.

Keystone Steel & Wire Company, Peoria 7, Illinois

KEYSTONE
WIRE FOR INDUSTRY

Cold Heading Saves 70%

This fastener was formerly a two-piece set with a washer welded on the body. Now it is upset by Time Screw with Keystone "XL" Wire, saving 70% in costs.



KEYSTONE STEEL & WIRE COMPANY
PEORIA 7, ILLINOIS

Brand New . . . COLD HEADING FACTS FOLDER . . . send coupon today! New folder discusses uses, applications, methods, technical facts, wire requirements.

Name _____ Title _____

Company _____

Street _____

City _____ State _____



"J. B. Certainly Knows How To Wind Up An Interview."

"This is a long term contract in which each party sought to protect itself. The purchaser secured the sole cancellation right. Without a price protection clause the seller might well find the contract ruinous. It seems clear to the court that when the parties used the term 'cost of production' they

intended to include all costs that might be shown by accepted accounting practices. It is difficult for the court to believe that the purchaser's accountant in checking over the sales figures for the express purpose of determining whether a price increase was justified, would ignore the fact

REFERENCES

- Buggs v. Ford Motor Company, 113 Fed. 2d 618, June 28, 1940
- Memphis Furniture Mfg. Co. v. Wemyss Furniture Co., 2 Fed. 2d 428, November 7, 1924
- California Lettuce Growers v. Union Sugar Co., 278 Pac. 2d 106, California, December 23, 1954
- Lipman v. Arlington Seating Co., 192 Fed. 2d 93, October 31, 1951
- Taller & Cooper v. Illuminating Electric Co., 172 Fed. 2d 625 February 19, 1949.
- Pacific Portland Cement Co. v. Westvaco Chlorine Products Corp., 77 F.S. 406, May 3, 1948
- Moon Motor Car Co. of N.Y. v. Moon Motor Car Co., 29 Fed. 2d 3, November 19, 1928

that one sixth of such increase resulted from an increase in indirect costs.

"The term 'cost of production' is indefinite only in the sense that its determination must be had by reference to seller's accounting records. These the contract provides and the evidence shows, are open to the purchaser. Applying the principle that, 'That is certain which may be made certain,' the court holds that the contract is not invalid for uncertainty."

Definite Ascertainment

In another instance involving price adjustment provisions in a purchase contract, which were held valid, it had been stipulated that the manufacturer would sell and the purchaser buy at list prices to be established from time to time by the manufacturer, less a discount of 50-10-10 per cent, with the right reserved to the manufacturer to change the discounts when competitive market conditions warranted. Further, the manufacturer agreed in the event of a reduction of prices that it would protect the purchaser to the extent of the merchandise on hand or in transit.

In a suit by the buyer for damages the defense was set up by the seller that the contract was unenforceable for lack of a definite price to be paid by the purchaser.

"While the price is not fixed," said the court, "it is capable of definite ascertainment by reference to the manufacturer's list prices even though the latter reserved the right from time to time to change the price and rate of discount."

Standard Required

Many years ago in a case that is often followed by the court as authority for decisions determining the legality of agreements in which it is impossible with fairness to all concerned to stipulate rigid sale prices, a famous Federal judge remarked,

"There is no objection to a promise that is indefinite so long as the parties can tell when it is to be performed and it is enough if, when the time arrives, there shall be in existence some standard by which that can be tested."

How to reduce Investment in costly Steel Inventories

You can eliminate costly, large-scale inventories by taking advantage of the services maintained by your steel service centers. Varied steel stocks and modern processing equipment make available the grades, shapes and sizes of steel you need . . . on just a few hours' notice.

Alan Wood supplies major steel warehouses with top quality products which help them meet customer requirements.

Call your nearest steel warehouse today. Ask him how he can help you reduce your steel inventory and at the same time free your capital for new, more profitable uses.



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IRON PRODUCTS
"Swede" pig iron

STEEL PRODUCTS
Plates (sheared)
A.W. Dynalloy
(high strength
steel)
Hot rolled sheets
Hot rolled strip
Cold rolled sheets
Cold rolled strip

ROLLED STEEL
FLOOR PLATE
A.W. ALGRIP
abrasive
A.W. SUPER-
DIAMOND pattern
COAL CHEMICALS

A.W. CUT NAILS
Standard &
Hardened

MINE PRODUCTS
Iron ore
concentrates
Iron powder
Crushed stone
Sand

COKE
Foundry,
industrial &
metallurgical

PENCO METAL
PRODUCTS DIVISION
Steel cabinets,
lockers & shelving



Products and Ideas

Miniature Lubrication System

IF YOU have machinery which has numerous bearings and limited installation space, you may have use for a centralized miniature lubrication system called "accumite." The system is a low pressure, positive displacement type designed to efficiently lubricate industrial vehicles and machinery which were previously not considered for centralized lubrication systems due to economical or structural reasons.

The heart of the system is a miniature metering valve which services each bearing individually. The valve delivers a specified amount of clean lubricant to each bearing the system serves.

Here are some of the possible

applications: **production machines**—where valuable manhours are wasted on manual machine lubrication; **high precision machines**—where either too little or too much lubrication results in rejects and wasted manhours; **machines with many bearings**—where manual lubrication often results in hit or miss lubrication; **bottleneck machines**—where downtime and burned-out bearings stop all production; **"24-hour" machines**—where regular, correct lubrication is needed for high production; and **machines that are difficult to lubricate**—where personnel safety is endangered.



Centralized miniature lubrication system for hard to reach bearings.

Write No. 30 on Inquiry Card—Page 32

On-The-Spot Reproduction

of Microfilmed Drawings



Microfilmed drawings enlarged for visual reference and reproduced.

MICROFILMED engineering drawings can be put into a new device that will enlarge them for visual reference and will also reproduce the enlargement. The device is a low cost microfilm reader-enlarger-processor. It was developed specifically for use in tabulating aperture cards containing 35 mm film, however, it can also be used with both roll film and acetate jackets in either 16 mm or 35 mm size.

Called the Rep II, the device works this way: a filmed drawing is placed in the projector at the top of the Rep II and by merely pushing a button a 17 x 12 inch enlargement of the drawing appears on the viewing table below.

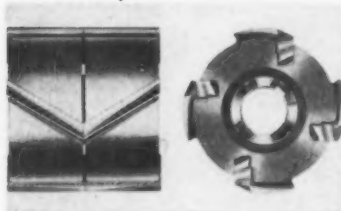
If one or more prints of the drawing are desired, the viewing table is swung out of the way, and a conveyor belt beneath it is put into action to bring a sheet of sensitized photographic copy paper into position beneath the enlarging projector. Within 50 seconds after exposure the sheet is carried through a processing section and emerges damp-dry. Subsequent prints can be produced at 50 second intervals so that the machine, at full capacity, can turn out as many as 60 prints per hour.

The Rep II is made by Remington Rand Division, Sperry Rand Corp.

Write No. 31 on Inquiry Card—Page 32

Products

Milling Cutters For Machining Aluminum



A line of inserted-blade plain milling cutters that incorporate a patented blade design, providing twice the normal cutting life of inserted blades, is announced by Goddard & Goddard Co., 12280 Burt Rd., Detroit 23, Mich. These cutters using "double life blades" come in 4" wide right and left hand sections. They are recommended for use in gangs made of equal numbers of right and left hand sections. This arrangement neutralizes end-thrust during machining and permits maximum blade utilization. After grinding life has been used up on first side of blades, they can be reversed for double blade life.

Write No. 32 on Inquiry Card—Page 32

Outwears Steel Sixty to One



A material which can be cast without heat or pressure, yet outwears steel sixty to one has been placed on the market by Devcon Corp of Danvers, Mass. The wear-resistant, self-lubricating material has been used successfully on low speed bearings, building up surfaces subject to severe wear, making duplicating masters and forming dies. Because of its excellent resistance to most acids, alkalis and other chemicals, it has proved of great value for lining tanks and repairing chemical equipment.

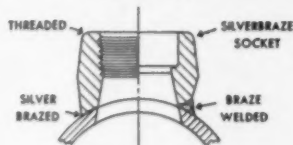
Write No. 33 on Inquiry Card—Page 32

MARCH 3, 1958

ANNOUNCING... BONNEY WELDOLETS THREDOLETS SOCKOLETS and BRAZOLETS

BRONZE FITTINGS

Brazoletts for silver brazing or Thredolets or Sockoletts for oxyacetylene braze welding to copper or brass pipe



size range
outlet sizes 1/4" - 2"
run pipe sizes 1" - 24"

available in any
combination of
outlet and header
connection type

APPLICATIONS

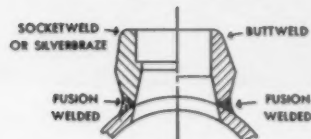
PLUMBING AND
HEATING
PROCESS PIPING
SHIP PIPING

for
branch
connections
on brass
copper
and
cu-ni
piping



COPPER NICKEL FITTINGS

Weldolets and Sockoletts for fusion welding to copper nickel pipe



size range
outlet 1/4" - 6"
run pipe sizes 1" - 24"

APPLICATIONS

U.S. NAVY BUREAU OF
SHIPS AND U.S. COAST
GUARD PIPING



WELDOLETS ®
THREDOLETS ®
SOCKOLETS ®
BRAZOLETS ®



CARBON STEEL
WARNINGS
ASST
for all warnings

PENNSYLVANIA DIVISION

BONNEY FORGE & TOOL WORKS

DEPT. P

ALLENTOWN, PENNSYLVANIA

For More Information Write No. 212 on Inquiry Card—Page 32



POWER-UP!

modern maintenance

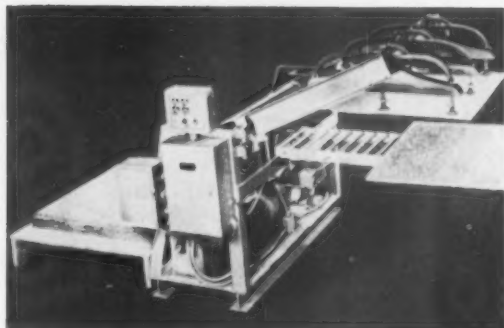
EFFICIENT ECONOMICAL GUARANTEED

J-95188-A

YOU CAN BE SURE...IF IT'S **Westinghouse**

Products and Ideas

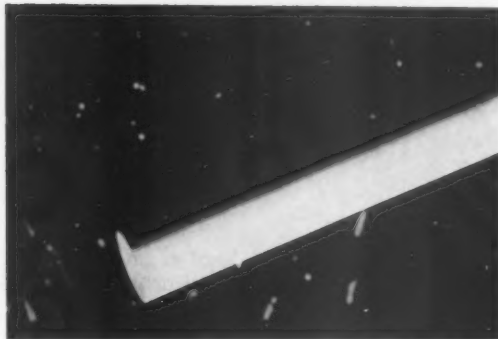
Versatility Features This Sheet Feeder



A feeder has been designed to deliver sheets from piles to processing equipment (slitters, punch presses, etc.). It can also be used to remove sheets from conveyors or machine tables for stacking. It handles a wide variety of materials such as cardboard, plastics, metal, asbestos board, etc. Sheets may be flat or formed (corrugated, for example) and may be rectangular or irregularly shaped. Sheets up to 6' x 15' may be handled by the machine which is manufactured by the de Florez Co., Inc., Div., The Dexter Co., 116 E. 30th St., New York, N.Y.

Write No. 34 on Inquiry Card—Page 32

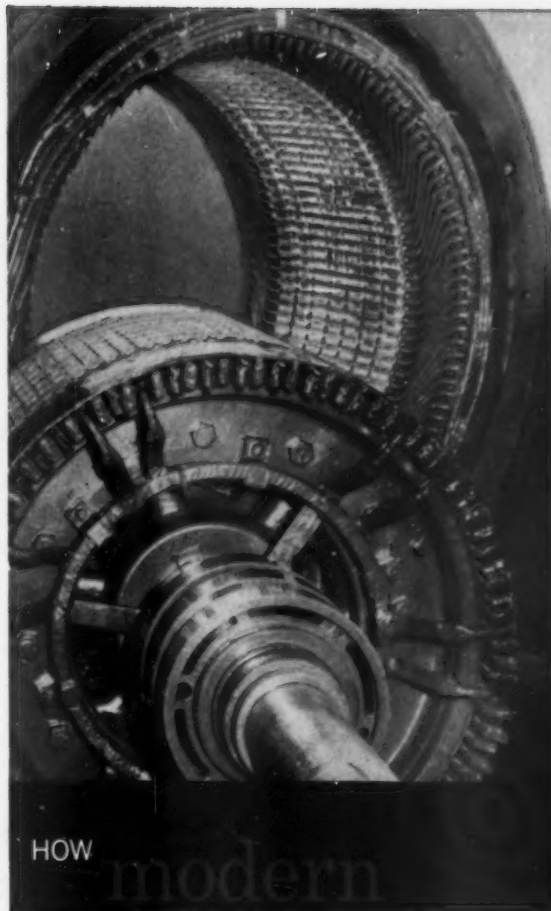
Pyroceram Brand Tubing



Pure white and opaque Pyroceram brand tubing, with thermal shock resistance equivalent to that of fused silica, is being introduced on the market. It ranges in diameters from $\frac{1}{8}$ " to $\frac{3}{4}$ " and can be used in broad industrial applications, such as heat exchangers. Coefficient of expansion for this crystalline material is 5 to 11×10^{-7} cm/cm/degree C (compared with 32×10^{-7} for borosilicate glass). Flexural strength of Pyroceram Code 9608 tubing is 17,000-23,000 psi. It may be procured from Corning Glass Works, Corning, N.Y.

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For More Information Write No. 213
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MARCH 3, 1958



HOW

modern apparatus repair

STOPPED INSULATION FAILURE

PROBLEM — This 500-hp squirrel-cage motor had been in operation on a rubber mill drive. Records indicated the motor was failing about once a year, due to excessive accumulations of carbon black.

SOLUTION — The stator was rewound with Thermalastic®-insulated coils. The void-free solidity and density of Thermalastic insulation render it impervious to contaminants encountered in industrial service.

RESULT — No insulation failure after three years of service.

Ask about Westinghouse repair plant facilities that are available for your equipment failure problems. Call your Westinghouse salesman or write: Westinghouse Electric Corporation, Box 868, Gateway Center, Pittsburgh 30, Penna.

J-95191

YOU CAN BE SURE...IF IT'S
Westinghouse



For More Information Write No. 214 on Inquiry Card—Page 32

103



New shipping box

for battery acid... Corrosive liquids ship safely, economically in easy-to-handle polyethylene bottle and H & D corrugated box. Lightweight unit fills and dispenses quickly without opening box. For your packaging problem, better see H & D.

HINDE & DAUCH

Division of West Virginia Pulp and Paper Company

Authority on Packaging • Sandusky, Ohio • 42 Sales Offices • 15 Factories

For More Information Write No. 215 on Inquiry Card—Page 32



1.



2.



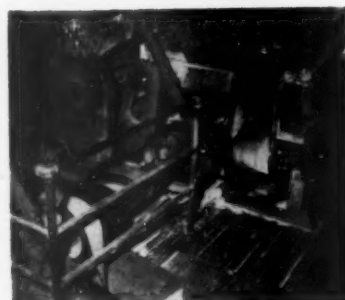
3.



4.

Products

Transmission Belt Minimizes Elongation



Belt stretch, a costly problem where transmission belts are used on drives, is minimized in a belt designed by B. F. Goodrich Industrial Products Co., Akron, Ohio. The belt is designed for use on all type drives. By controlling the amount of moisture in the air during manufacture, length uniformity is maintained. To explain: when the average belt is put into operation on a drive, the heat generated dries the moisture and the belt lengthens . . . because too much moisture will have caused the cords to shrink during manufacture. Not so with the new belt—it's constructed under controlled room humidity conditions.

Write No. 36 on Inquiry Card—Page 32

Lightweight Diesel Introduced by Petters

A series of lightweight, high-speed diesel engines designed for small agricultural, marine and industrial equipment has been introduced by Petters Ltd. of Staines, England.

Designated the PC series, the engines range from 6¼ to 25 horsepower and operate at a constant speed of 3,000 revolutions per minute. Piston speed is 1,500 feet per minute and the engines are aircooled.

The small diesels will be distributed in the United States by Brush ABOE, Inc. of Woodside, N. Y., American affiliate of Petters.

Write No. 37 on Inquiry Card—Page 32

Brazing Stop-Off Material Acts as Parting Agent



"Microbraz", a material that acts as a parting compound, is claimed to prevent the unintended brazing of mating surfaces during brazing operations. It is supplied in powder form. In use, it is mixed with a volatile plastic, "Microbraz Cement," to aid application. It adds flexibility to the brazing process of the furnace. It prevents the brazing or fusion of any surface to which it is applied. When mixed with cement to the right consistency, it may be applied by brushing, dipping or spraying, according to the manufacturer, Wall Colmonoy Corp., 19345 John R. St., Detroit 3, Mich.

Write No. 38 on Inquiry Card—Page 32

Small Parts Packaging Machine



A packaging machine that automatically prints, seals, cuts off and counts packages up to 8" x 8" is now on the market. Small mechanical parts may be packed individually or in multiples at speeds up to 6,000 bags an hour. Virtually all coated or laminated heat sealable packaging materials may be used. Bags are non-wrinkle, waterproof, moisture and vapor-proof. The manufacturer is Product Packaging Engineering, 5747 Marilyn Ave., Culver City, Calif.

Write No. 39 on Inquiry Card—Page 32

MARCH 3, 1958



preventive maintenance KEEPS PRODUCTION UP

PROBLEM — Dust entering the bearing oil cavities in the end brackets of this 100-hp motor eventually stopped rotation of the oil ring, causing failure. The company called in Westinghouse to help solve this problem.

SOLUTION — Westinghouse converted the motor from sleeve to ball bearing. The motor was re-wound, shaft machined and new bearings and housing supplied.

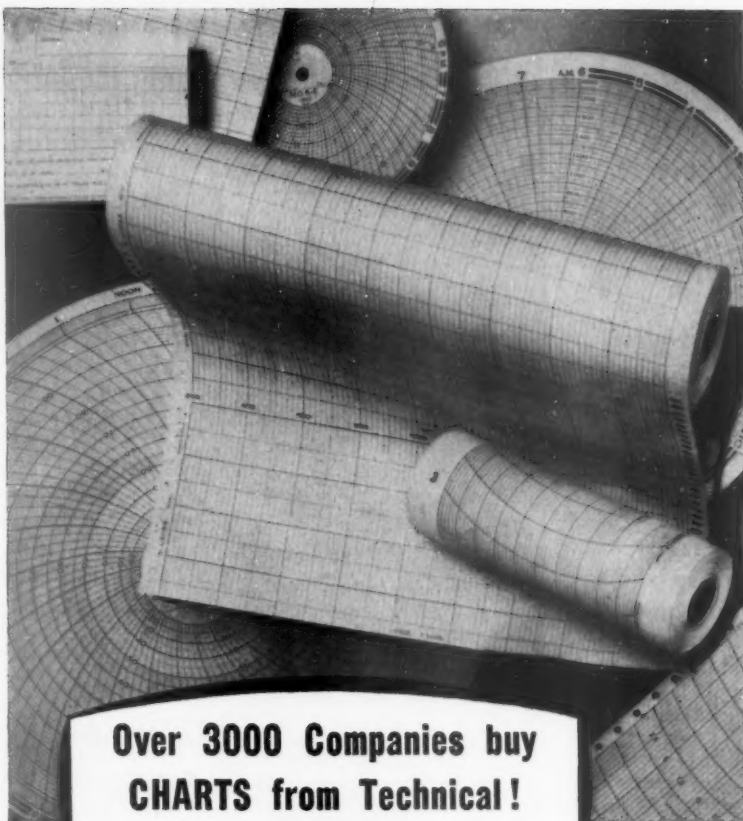
RESULT — Production was increased through less downtime.

Ask about Westinghouse preventive maintenance which will keep your production up. Call your Westinghouse salesman or write: Westinghouse Electric Corporation, Box 868, Gateway Center, Pittsburgh 30, Pennsylvania. J-95189

YOU CAN BE SURE...IF IT'S
Westinghouse



For More Information Write No. 216 on Inquiry Card—Page 32



**Over 3000 Companies buy
CHARTS from Technical!
DO YOU?**



*Saves your time . . .
Holds down costs*

Obvious economies result from "single source" purchasing of all recording charts. Why write a dozen purchase orders to different suppliers when one to Technical does the job? Fewer headaches, too, in "following through."

ACCEPTANCE by America's leading industrial firms attests to Technical's fine quality — achieved through years of specialization in one product.

Serving America's
"Blue Chip" Industries



TECHNICAL SALES CORPORATION

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Detroit 35, Michigan

National Representatives for

STAEBLER & BAKER, INC.
Clayton, N. Y.

TECHNICAL CHARTS, INC.
Buffalo, N. Y.

For More Information Write No. 217 on Inquiry Card—Page 32

Products

Steel Lockers That Won't Rust



The Berger Division of Republic Steel Co., Canton, Ohio gives its steel lockers the same rust-protection treatment the automobile bodies get. Bonderizing, a metal surface treatment that inhibits rust formation, is being applied to the complete locker assemblies. The bonderized coating is a non-metallic phosphate, applied to locker parts prior to painting and assembly. In addition to inhibiting rust, the bonderizing coating forms an extra anchor for the enamel. This helps to keep the paint from peeling under the most severe service conditions, thus minimizing maintenance expenses.

Write No. 40 on Inquiry Card—Page 32

Hydraulic Speed Reducer Instantly Reverses

Roberts Electric Co., 849 W. Grand, Chicago 22, Ill., has on the market a variable speed reducer with its output speed reversible in either direction from 0 to 750 rpm. Among its countless areas of application are: lathe heads, reamer drives, blowers, milling machines, etc. It suits any 1/4 to 1-1/2 hp motor to obtain variable speed in either direction of rotation. Reversing is independent of speed control, and effortless. The unit consists of a variable displacement hydraulic pump with a recommended maximum input speed of 750 rpm. An adjustable automatic relief valve is factory-preset for 100 in./lb torque and may be reset to 180 in./lb.

Write No. 41 on Inquiry Card—Page 32

Rotating Tumbler Cleans Small Parts



A rotating tumbler, Model T-18, has been specifically designed for cleaning small parts that are difficult to handle. It is powered by a $\frac{1}{2}$ hp air motor. Tumbling speeds vary up to a maximum of 120 rpm. Overall dimensions: 22" long by 18" diameter. The units have a removable door for loading and unloading. Constructed throughout of steel, the tumbler can be submerged in boiling solution and can be used for all cleaning purposes such as degreasing of paint, plating, etc. It is made by the Dayton Rogers Mfg. Co., Minneapolis 7, Minn.

Write No. 42 on Inquiry Card—Page 32

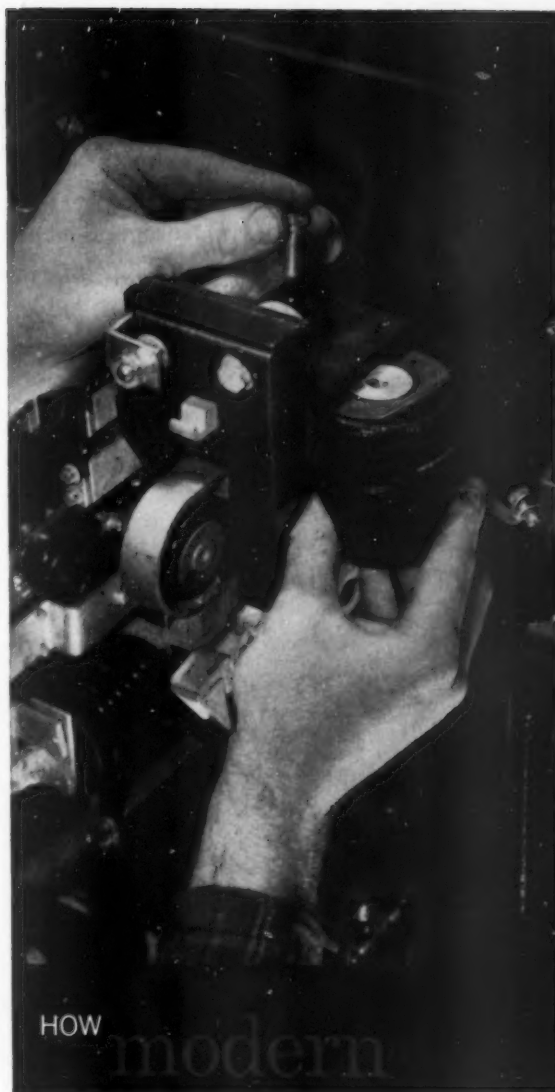
Welders' Eye Shield Simplifies Plate Changing



A cushion soft frame has been incorporated in a newly introduced welders' eye shield. This provides increased comfort and simplifies plate changing from front of eye shield. The single piece, slide frame acts as both a lens inserter and injector. No springs or washers are needed. Standard filter and standard CR-39 shatter-proof, lightweight plastic cover plates provide maximum protection. The "Cyclops" eye Shield is made by Welsh Mfg. Co., 25 Magnolia St., Providence, R.I.

Write No. 43 on Inquiry Card—Page 32

MARCH 3, 1958



renewal parts SAVES MAINTENANCE TIME

PROBLEM — Costly maintenance time is spent because renewal parts are not kept in inventory. Yet, the cost of the part is only a fraction of the lost production time.

SOLUTION — Consult with your Westinghouse salesman. He can show you how little it will cost to keep vital renewal parts on hand.

RESULT — Hours of downtime reduced to minutes with genuine Westinghouse renewal parts in stock.

J-95190

YOU CAN BE SURE...IF IT'S
Westinghouse



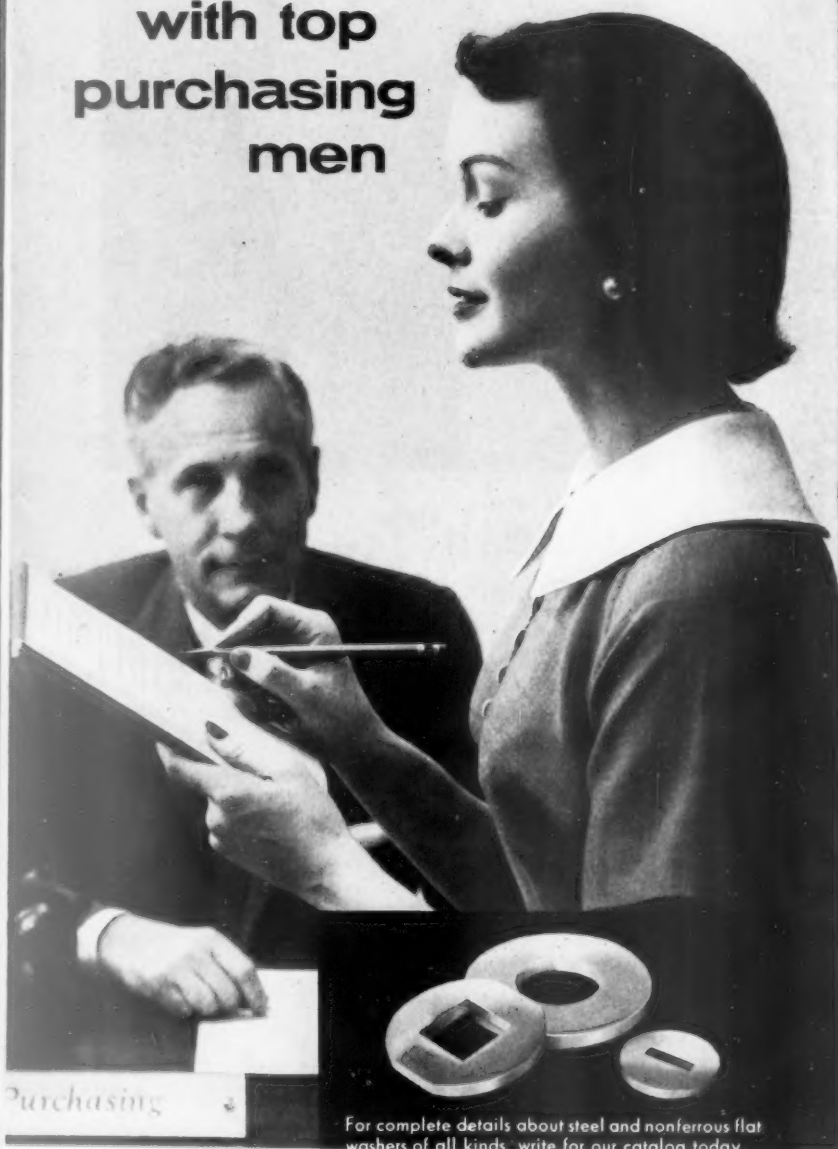
For More Information Write No. 218 on Inquiry Card—Page 32

JOLIET WASHERS

First in Value—With a heavy volume, and modern, automated equipment, Joliet is geared for top production efficiency, minimum production costs. Joliet is your best-price source for special washers in any size, any metal, any quantity.

JOLIET WROUGHT WASHER COMPANY • Joliet, Illinois

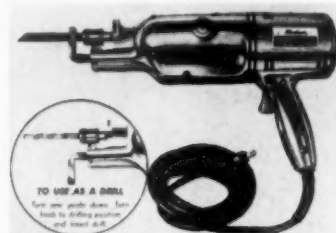
**top source
with top
purchasing
men**



For complete details about steel and nonferrous flat washers of all kinds, write for our catalog today.

Products

Hack Saw-Drill Unit Saves Production Time



An easy-to-use gun-shaped combination hack saw and drill is now available for speeding production, saving time and expense by quickly cutting or drilling steel, plastic, wood or other materials. The lightweight, compact tool can be quickly converted from a saw to a drill, or vice-versa, merely by removing and inserting the tool in the chuck and shifting a knob to the drill or saw position. The unit operates on 110-120 v, either a-c or d-c and has a ground wire through its cord to assure safety in operation. The combination tool is a product of Modern Mfg. Co., Inc., 680 Davisville Rd., Willow Grove, Pa.

Write No. 44 on Inquiry Card—Page 32

Electric Hand Saw Cuts Metal, Plastic and Wood

The Henry Disston division of H. K. Porter Company, Inc., has entered the power tool field with an electric hand saw designed to cut metal, plastic and wood. The saw, named the D-23 weighs five and a quarter pounds. It has "Orbital Action," the blade swings into the work on the cutting stroke and backs off on the down-stroke.

The new multi-purpose tool has a 3-amp motor operating at 3800 strokes per minute. It utilizes a detachable cord set, and is equipped with a trigger switch. Smaller saws at cheaper prices company said.

Write No. 45 on Inquiry Card—Page 32

For More Information Write No. 219
on Inquiry Card—Page 32

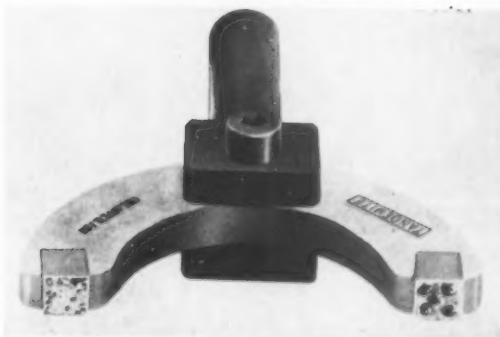
Cleaning Device Saves 80% in Labor Costs



A unique valve allows the user of a new cleaning device to switch instantly from a solution application (cleaning or sterilizing) to pressure rinse (clear water) and to air dry if desired. The cleaning device, shaped in the form of a pistol, uses compressed air. Weight is less than 3 lb. The instrument requires 6 to 8 cfm at 100 to 125 psi. Its cost is smaller than two weeks wages of an average worker. The device is claimed to pay for itself in a matter of weeks in saving of labor and material. The manufacturer is Kemax Corp., 9717 Luella Ave., Chicago, Ill.

Write No. 46 on Inquiry Card—Page 32

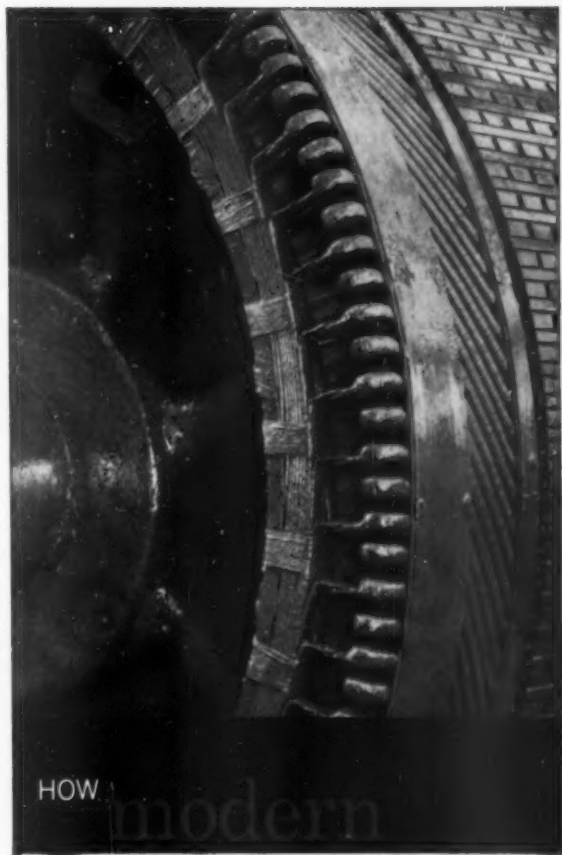
Tandem Type Diamond Tool Lasts and Lasts



A major development has been introduced into a newly announced diamond tool. It is a pair of dressing devices in tandem. The two points of contact reduce the amount of pressure, heat and friction on the diamond and results in longer tool life and increased wheel life. The tool is claimed to be the only device that can dress both sides of a wheel as well as the face. The tool can dress to an accurate 90° shoulder, according to the manufacturer: Tandemite, P.O. Box 4736, Cleveland 26, Ohio.

Write No. 47 on Inquiry Card—Page 32

MARCH 3, 1958



HOW

modern engineering service PUTS A MILL BACK IN OPERATION

PROBLEM — 1500-kw generator serving the main rod mill drive of a steel company failed. The failure caused a 40% loss of production.

SOLUTION — Westinghouse worked around the clock on an emergency basis. Windings, pole pieces and armature iron were stripped from the machine. Iron was repaired and restacked, and the series, commutating and compensating field coils were reinsulated. Commutator was repaired and generator armature rewound with new coils and cross connectors.

RESULT — An almost completely wrecked generator was put back in service in record time, thus restoring full production.

Ask about Westinghouse facilities that are available to help you with your equipment problems. Call your Westinghouse salesman or write: Westinghouse Electric Corporation, Box 868, Gateway Center, Pittsburgh 30, Pennsylvania.

J-95187

YOU CAN BE **SURE**... IF IT'S
Westinghouse 

For More Information Write No. 220 on Inquiry Card—Page 32

Office Equipment and Supplies

Electronic Typing Calculator Makes Purchase Order Writing Easy

A COMPUTER designed primarily for purchase order and invoice preparation has been introduced by the Electric Typewriter Division of the International Business Machines Corporation, New York. The IBM 632 consists of an electric typewriter, a ten-key companion keyboard, a magnetic core "memory" within the computer unit and a program reading device.

With very little instruction a typist can operate the machine, which can be programmed to automatically retain and type out total gross sales, taxes, shipping charges, invoice totals or other selected accumulations.

A plastic tape within the program reading device provides instructions and decisions for a complete application. This tape can be changed rapidly for a different office procedure. The IBM electric typewriter with conventional keyboard automatically types out the computer's calculations and can also be used for general office writing purposes.

According to the company, the calculator shows promise of extending its uses to many other office applications that now require separate calculating and typing operations.

The IBM 632 costs about \$5600 and is manufactured at the company's new plant at Lexington, Kentucky. Delivery is scheduled for the second quarter of this year.

Introducing the

IBM 632

ELECTRONIC TYPING CALCULATOR

... combining the simplicity of electric typewriter operation with the advantages of high-speed computer performance.

Sold to: MR. GEORGE ENRIGHT
ENRIGHT MANUFACTURING CO.
MARTINSVILLE, IOWA

Ship to: ENRIGHT MANUFACTURING CO.
MARTINSVILLE, IOWA

DATE	INVOICE NUMBER	CUSTOMER NUMBER	SALUTARY	SHIP TO
1/6/57	78964	7602	DOE	PARCEL POST

QUANTITY	PRODUCT NO.	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
110	6543	RELAY, QUD	5.25	577.50	
12	986523	RELAY, WIRE	2.50	30.00	
					574.65

607.50 | 60.75 | 3 | 16.40 | 11.50

INTERNATIONAL BUSINESS MACHINES CORPORATION
Electric Typewriter Division
New York 22, New York



Engineer Joseph P. Ancona checks the program rack of the IBM 632. A small keyboard inserts numerical information. Computing takes place within the electronic gate, left. The relay gate, right, transmits instructions from the program tape, and the electric typewriter automatically prints out the results.



"National Accounting System saves us \$200,000 a year...returns 102% annually on our investment."

—PITTSBURGH PLATE GLASS COMPANY, Pittsburgh

"We have invested \$195,098 in National Accounting Machines. Their many automatic features, their ability to produce several accounting records simultaneously, and their flexibility which permits shifting them quickly from one job to another—all these enabled us to improve our accounting procedures, resulting in estimated savings of \$200,000 a year which recovers our investment every 12 months.

"In addition to payroll writing, these

Nationals are used for cost distribution, bond purchases, government reports, security benefit plan, general ledger, cost ledger, sales analysis, age analysis, work orders, production control and scheduling, inventory control, accounts receivable, and accounts payable.

"We are impressed with the ease and simplicity with which the equipment operates."

J. Williams

Controller, Pittsburgh Plate Glass Company

THE NATIONAL CASH REGISTER COMPANY, DAYTON 9, OHIO
989 OFFICES IN 94 COUNTRIES

In your business, too, National machines will pay for themselves with the money they save, then continue savings as annual profit. Your nearby National man will gladly show how much you can save—and why your operators will be happier. (See phone book, yellow pages.)



*TRADE MARK REG. U. S. PAT. OFF.

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ACCOUNTING MACHINES
ADDING MACHINES • CASH REGISTERS
NCR PAPER (NO CARBON REQUIRED)

"Custom-make" Sales
with **TENSION** Custom Made
PACKAGING ENVELOPES



TAGVERTISER does both
selling and packaging jobs!

It's a tag. It's an advertising folder.
It's an envelope carrying buttons,
screws or parts. That's the Tension
Tagvertiser.

Big advantage is that it's ex-
clusively yours—a typical exam-
ple of Tension's custom-made
creative design packaging en-
velopes. Every one is different.

It gives the prospect an
added nudge at the point of
sale with the merchandise in
front of him. It carries assem-
bly parts, spare buttons, spe-
cial components that would
otherwise have to be packed
separately.

Ideal for lines ranging from
fashions to appliances or toys.
Gives final touch of quality to
any product.

See how Tagvertiser and other
Tension packaging envelopes can help
you custom-make sales. Write for
FREE samples.

FREE Tension Envelope Corp.
817 East 19th Street
Kansas City 8, Missouri

Please send me FREE "Envelope Idea
Kit for Packaging Industry," which in-
cludes samples of Tension Tagvertisers.

Name.....
Title.....
Firm Name.....
Address.....
City.....Zone.....State.....

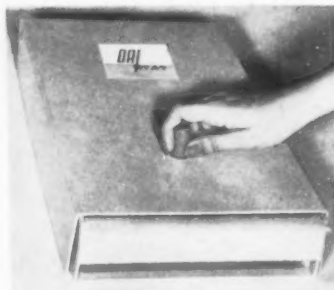
For More Information Write No. 222
on Inquiry Card—Page 32

Office Equipment



A new Swedish-made type-
writer has been introduced by
Facit, Inc. The new, standard
machine features improved touch
control, ultralight carriage and
lightning-fast type bar return.
Typing ease and speed is also
aided by improved synchroniza-
tion between carriage and key-
board, assuring uniform type
spacing regardless of personal
variations in typing rhythm. Also
new is a special key-jam release
mechanism, controlled by a key
to the left of the space bar, to
instantly clear two or more keys
that accidentally bunch together.

Write No. 48 on Inquiry Card—Page 32



A new, inexpensive light-tight
paper dispenser designed to ac-
commodate the papers used in
many types of office photocopy
processes is now available from
Peerless Photo Products, Inc.,
Shoreham, New York. The unit
is made of pressed board with
gray gloss finish. The dispenser
provides separate compartments
for both positive and negative
papers. A handle on the top pro-
vides a quick means of ejecting
the negative paper, one sheet at a
time, from its compartment. It
will accommodate both letter and
legal size paper.

Write No. 49 on Inquiry Card—Page 32

"For Building Business..."

The Elbe File & Binder Co., Inc.,
Fall River, Mass., published an all-
new, 116 page, loose-leaf & sales
presentation catalog. It lists over
1500 stock items and hundreds of
made-to-order binders. The fea-
tures: 1. An exclusive loose-leaf
planning section. 2. Helpful idea
sections for increasing office and
sales efficiency. 3. Special sections
dealing with sales tools, custom-made
products, advertising specialties,
business gifts and visual aids;
4. Dozens of all-new stock lines and
advanced styles.

IDEAS
For Building Business with:

- BINDERS
- FOLDERS
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JUST PUBLISHED — 116 page catalog
for every business need — **YOURS FREE**

Write Today

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Dept. P-3

For More Information Write No. 223
on Inquiry Card—Page 32



Prestige Purchase AT LOWEST COST

Your finest and best investment is in the
executive appearance of all of your firm's
correspondence. Your letters, typed with
Old Town **NYLON + AF** Ribbons are
impressively individual in sharpness and
beauty. Your prestige cost per-letter is
infinitesimal.

NYLON + AF combines the strength-sheer-
ness and super wear of Nylon with the con-
trolled re-inking properties of special AF
fibres. You will admire, your secretary will
love, its definitely different *prestige* writing.
NYLON + AF is an original achievement of
Old Town, manufacturer and pioneer in qual-
ity ribbons, carbons, duplicators and dupli-
cator supplies. Make Old Town your buy-
word for the best! **TRY NYLON + AF**, at
no charge. Write us for it on your letterhead.

**OLD TOWN
CORPORATION**
Established 1917



750 Pacific Street, Brooklyn 38, N. Y.

For More Information Write No. 224
on Inquiry Card—Page 32

PURCHASING



On-the-spot reproduction of microfilmed engineering drawings for reference purposes can now be made at low cost on a new microfilm reader-enlarger-processor known as Rep II and introduced recently by Remington Rand Division, Sperry Rand Corporation of New York. The machine was developed specifically for the use of tabulating aperture cards containing 35mm film. It can be used with either roll film or acetate jackets in either 16mm or 35mm size. The entire process of reference and reproduction can be completed in the single unit.

The machine can be located and operated in the engineering or drafting department without the need for sending negatives, reels or aperture cards to another department for reproduction.

Write No. 50 on Inquiry Card—Page 32



A new desk type machine for writing names and addresses or other repetitive data up to 13 lines, three inches long is now available from the Master Addresser Company, Minneapolis, Minnesota. Prints are made from a paper master which is prepared in the office typewriter. The master can be filed for future use. The machine occupies desk space of 7" x 13".

Write No. 51 on Inquiry Card—Page 32

are you a good housekeeper?



For good business housekeeping is largely a matter of good File-keeping.

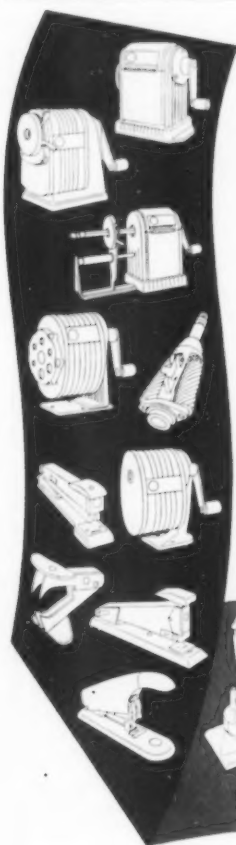
Scatteration filing has no place here. The best practice is to use Accopress Binders and Accobind Folders to keep all your papers in order—safely filed, neatly filed, ready to find. Acco filed papers are bound papers—the only system that insures safety, saves time, space, and money.

Ask your stationer to show you the advantages of Acco-Binding—the easier, sure way to good business housekeeping.

ACCO PRODUCTS

A Division of NATSER Corporation
OGDENSBURG, NEW YORK
In Canada: Acco Canadian Co., Ltd., Toronto

For More Information Write No. 225
on Inquiry Card—Page 32



This removes Staples



Stapled by
NINE DIFFERENT STAPLERS

Yes, Apsco makes NINE DIFFERENT STAPLERS to enable you to select the correct stapler for the various office needs. For example, at the top of the line there is the 2002 DELUXE, an all purpose front drawer loader that staples, pins and tacks, a beautiful highly styled unit—ideal for general office use.

At the other end of the line there's the A-10 PERSONAL STAPLER, also called the "Travelers Model" because it fits so easily into the brief case or pocket. Perfect for salesmen, delivery men, shop personnel, etc. Uses Standard No. 1 Staples.

Apsco

QUALITY...Our priceless Ingredient

Pencil Sharpeners • Staplers • Punches

APSCO PRODUCTS, INC.

Los Angeles, Calif., Rockford, Ill., Toronto, Canada

Office Equipment



Air-Com Printers, Los Angeles, Calif. have announced a new production aid—**Schedule-Pad**. The format is 8½ x 11 inches to fit three-ring binders. Each sheet handles five jobs for the period of one week. By using succeeding sheets, production of work may be scheduled for six months or longer. The form is so designed to project the schedule of work orders for any length of time required. A complete 1958 calendar is printed on the back of each schedule sheet which allows the calendar to face each schedule in the binder.

Write No. 52 on Inquiry Card—Page 32

The **Domore Chair Company, Inc. of Elkhart, Indiana** has recently completed its inclusive **catalog** which contains a complete picture and word description of every chair in the company's line. The catalog runs the gamut from executive chairs to specialized production models for factory service. Included are chairs in the following classifications: executive, general office, secretarial and clerical, companion and production.

Write No. 53 on Inquiry Card—Page 32

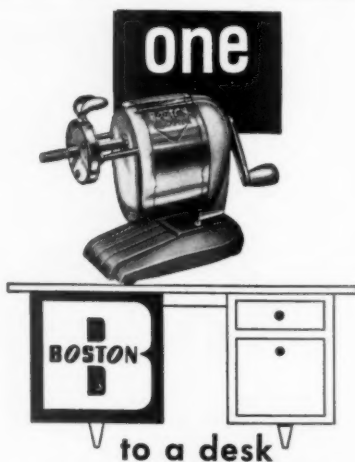
Development of **Skip ballpoint writing fluid**, a new, improved smudge-formula is available in **Shaeffer's** new line of **Skipriter** ballpoints. The new ink is completely permanent, instant drying and smooth flowing. Carrying the same name as the pen company's **Skip** writing fluid for fountain pens, the new ballpoint writing fluid has the ability to write on smooth surfaces without smudging or skipping. It is a product of **W. A. Sheaffer Pen Company, Fort Madison, Iowa**.

Write No. 54 on Inquiry Card—Page 32



The **Columbia Steel Equipment Company, Fort Washington, Penna.** is showing colorful combinations of its new **modular steel office furniture** in groupings specially laid out for plant office use. Interchangeable modular units, each designed for a specific work function, permit dozens of different physical layouts to meet the needs of a specific job. Basic units include steel desks, table tops, end panels, drawers, storage cabinets and other components. Linoleum or laminated-plastic tops are standard options. Special acid-resistant and other heavy-duty work surfaces are also available.

Write No. 55 on Inquiry Card—Page 32



small investment—BIG RETURN

BOSTON CHAMPION

PORTABLE PENCIL SHARPENER

4 DECORATIVE COLORS
green-blue-sandtone-gray

- less time wasted
- better efficiency
- less than 1½¢ a day for one year with long life ahead

Send for free comprehensive report on sharpeners, Booklet T.

C. HOWARD
HUNT

PEN CO., Camden 1, N.J.



TO PURCHASING DEPARTMENT PERSONNEL

AT THE PRESENT you are reading a copy of **Purchasing Magazine** most likely addressed to the head of your department . . . or an assistant.

YOU WELL KNOW that the contents of this publication definitely helps you do a better purchasing job.

KEEPING YOU INFORMED on trends and new ideas, **Purchasing** helps you prepare for advancement within your company.

YOU SHOULD have your own personal copy to completely digest the articles—and to have your own file copies always available for immediate reference.

TO HELP YOU get your own copy, we have inserted in this issue of **PURCHASING**, a special order blank. It is for **YOUR** use! Tear it out . . . fill in your name . . . and mail postage free, to **PURCHASING MAGAZINE, 205 E. 42 Street, New York 17, N. Y.**

WE SHALL then enter a one year subscription for you and bill you (or your company) at a later date—at the one year rate of \$4.00.

MAIL IT TODAY!

For More Information Write No. 227 on Inquiry Card—Page 32

END NEEDLESS OVERHEAD EXPENSES IN WASHROOMS!

with **Sani-Dri**
Electric HAND and HAIR Dryers



MODERN AUTOMATIC pushbutton way!

- Eliminates ALL Towel Costs
- Cuts Maintenance Expenses 85%
- Ends Litter...More Sanitary!

WRITE TODAY! New Brochure shows modern way to neater washrooms with less maintenance. No towel expense!



Distributors in All Principal Cities
THE CHICAGO HARDWARE FOUNDRY CO.
7038 Commonwealth Ave., NORTH CHICAGO, ILL.

For More Information Write No. 228
on Inquiry Card—Page 32



It Changed Buyers' Habits

If you're still buying machine key stock in 12-ft. lengths, storing it in steel racks, then moving those unwieldy lengths to your production area, you're missing a good bet to reduce storage and handling costs—save production time and lower your key stock inventory. Buy Mak-A-Key, the key stock that's packaged in convenient 12-inch lengths and can be stored close to your assembly area. Just cut file and fit. Save time, reduce production steps, lower down time.

STANDARD ASSORTMENT in sturdy fiber-board container: 3/16, 1/4, 5/16, 3/8, 7/16, 1/2 in. squares.

New 7-11 Kit—7 sizes fit 11 keyways, from 1/8" sq. to 7/16" sq. Additional sizes available.

DEVAN-JOHNSON COMPANY
587 Rathbone Ave., Aurora, Ill.

For More Information Write No. 229
on Inquiry Card—Page 32

MARCH 3, 1958

"FAIRFIELD

for FINE GEARS"



WHAT **FAIRFIELD** Facilities CAN MEAN TO YOU

1. **MASS PRODUCTION ECONOMY**—Large or small, you get the benefits of high production rates and big volume output at Fairfield—where fine gears are produced to meet your specifications **EFFICIENTLY, ECONOMICALLY!**
2. **QUALITY PLUS**—There is no finer recommendation for the quality of the product you sell than to be able to say it is "EQUIPPED WITH FAIRFIELD GEARS!"
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Walter Armstrong, general chairman, 1958 NAPA Convention

National Convention Leaders Selected for 1958

THE EXECUTIVE Committee of the National Association of Purchasing Agents and the Purchasing Agents Association of Chicago announced the leaders for the 1958 National Association of Purchasing Agents Convention. They are: Walter Armstrong, director of purchases, American National Bank and Trust Co. of Chicago as general chairman; and Harold Berry, Manager of Purchases and Stores, Chicago Rock Island & Pacific Railroad Co. as program chairman. Both men are prominent members of the Purchasing Agents Association of Chicago.

The convention will be held in Chicago at the Conrad Hilton Hotel, May 11 to 14 inclusive. It will be the 43rd annual convention held by the N.A.P.A. and an all-time high attendance of 4,000 is expected.

Mr. Armstrong is well qualified to direct this convention since he served as general chairman for the 1954 convention which was held in Chicago. He also served

on the executive committee of the National Association of Purchasing Agents and as president of the Purchasing Agents Association of Chicago. He has been a member of the association since 1933:

Mr. Berry is the national chairman of the educational committee for the National Association of Purchasing Agents and is also a

member of the board of directors of the Chicago association. He also served on the executive committee of the National Association, and is a former president of the Kalamazoo and Fort Wayne association and until recently was the chairman of the nonferrous committee of the N.A.P.A.

Harold Berry, program chairman, 1958 NAPA Convention



Association News

Renard Speaks to Chicago Ass'n

George A. Renard, former executive secretary-treasurer of the National Association of Purchasing Agents, was guest speaker at the monthly meeting of the Purchasing Agents Association of Chicago. Although Mr. Renard has for years interested himself in purchasing, he has not confined himself to these interests alone. A lawyer, administrator and economist, he has served the government in many Washington posts including the old N.R.A. Bureau, the National Defense Advisory Commission. He is a former acting chief of the printing and publishing branch of the Division of Civilian Supply.

Under the title "From One P.A. to Another," he brought to the members the benefit of his years in purchasing. He gave his listeners news and information on production, world economics and procurement in an easy, friendly manner.

At the meeting several members holding a record of 25 years' continuous membership in the association were awarded the 25-year Silver Membership Plaque.

New Association In Illinois

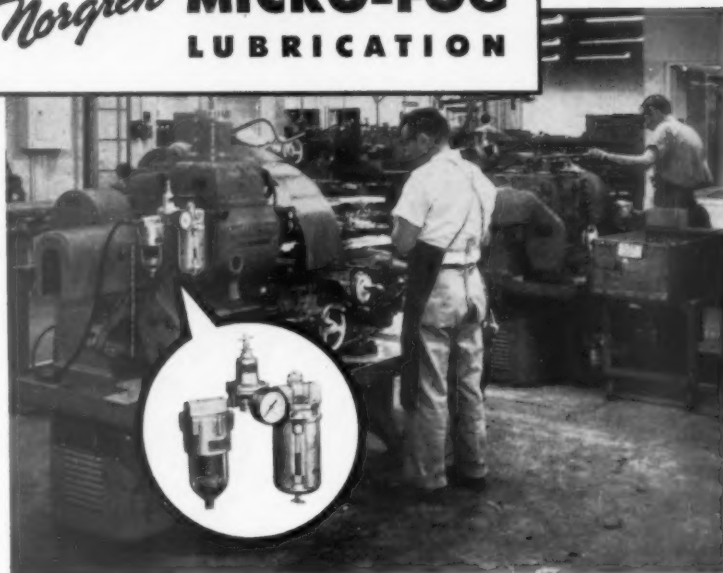
Will County, Illinois now boasts its own purchasing agents association. Just a few months old, the group meets on the last Thursday of every month at Joliet.

With the election of officers from a nine-man board of directors, initial programs have centered around the theme, "Know Your Fellow Buyer's Company." Interesting and informative talks by members about their company operations have enhanced the first "get acquainted" meetings.

The new association will welcome ideas on meetings, programs and encouraging new members. Write to Mr. D. S. McGilvray, Membership Committee, Purchasing Agents Ass'n of Will County, P. O. Box 1462, Joliet, Illinois.

MARCH 3, 1958

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A MICRO-FOG Lubricator creates an air-borne fog of extremely fine particles of oil that can be appropriately distributed to all lubrication points of even a large machine, automatically lubricating with a continuous, fully protective film of fresh, clean oil.

*Also provides ideal lubrication for gears, chains, cams, slides, ways and other machine components.

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FIR PLYWOOD PURCHASING GUIDE

1. Insist on DFPA Grade-Trademarks

DFPA grade-trademarks attest quality, performance and value. They appear only on plywood manufactured, inspected and laboratory-tested under the DFPA quality control program to assure conformance to U.S. Commercial Standard quality requirements.



2. Choose the right grade for each job

DFPA quality-tested fir plywood comes in two types: 1. *Exterior* (waterproof glue for permanent outdoor exposure); 2. *Interior* (moisture-resistant glue) for use indoors, temporary outdoor uses and sheathing.

Within each type are *appearance grades* to meet the exact needs of any given job. Most popular grades are shown below: (other grades including panels made of other western softwoods, also available)

TYPICAL USE	EXTERIOR-TYPE (Waterproof glue)	INTERIOR-TYPE (Moisture-resistant glue)
Where appearance of both sides important. Cabinet doors, single thickness walls, etc.	EXT-DFPA-A-A	INTERIOR-A-A-DFPA
Where only one side will be seen. Siding, paneling, signs, fixtures.	PlyShield® (A-C)	PlyPanel® (A-D)
Special concrete form grades. Both faces sound, solid, smooth.	Ext. PlyForm® (B-B) Maximum Re-use	Int. PlyForm® (B-B) Multiple Re-use
Unsanded structural and maintenance panel. Sheathing, crating, temporary screening.	Exterior Glue PlyScord® (C-D)	PlyScord® (C-D)

SIZES: Standard fir plywood thicknesses are from 1/4" through 3/4"; standard size is 4' wide, 8' long. Other thicknesses and sizes are also available, including "king-size" scarfed panels up to 30' and 50' long.

TEXTURED FIR PLYWOOD — Fir plywood comes in several smart textured panels for special decorative applications such as siding, paneling, displays and fixtures. These include *Texture One-Eleven* Exterior plywood (deep parallel grove pattern, shiplapped edges) and panels with attractive *brushed, striated, or embossed* surfaces.

OVERLAID FIR PLYWOOD — is Exterior fir plywood with resin-fiber overlay permanently fused to one or both sides of panel. *High density* is hard, glossy, abrasion-resistant (use for long-lasting signs, shelving, concrete forms); *Medium density* overlaid plywood is smooth, with texture similar to drawing paper (ideal paint base for signs, fixtures, siding).



FREE WALL HANGERS — Handsome 18"x33" wall hanger. Handy fir plywood grade-use-specification guide. Order one for everyone in your firm who specifies fir plywood. Also available, specification portfolio. Includes detailed description all grades, sizes, specialty panels, Commercial Standards requirements. Offer good USA only. Douglas Fir Plywood Assoc., Tacoma 2, Wash., Dept. 185.

Association News

Tulsa Elects Officers for New Year

Joe A. Huitt, purchasing agent, Buffalo Oil Company, was elected president of the Purchasing Agents Association of Tulsa at the group's annual "members only" meeting. The meeting was held at the Sky Terrace of the Tulsa Club. P. C. Kenton, assistant purchasing agent of the Warren Petroleum Corp. was voted into the post of secretary-treasurer.

Also moving up the ladder were Perry A. Gill, manager, materials and purchasing, Sunray Mid-Continent Oil Co., first vice president; and Edward J. Jameson, assistant manager, materials and traffic department, Carter Oil Company, second vice president. Herman C. Cowdery, retiring president, becomes national director.

Mr. Huitt brings a wealth of association experience with him to the office of president. He has been active in the Petroleum Motor Transport Association and the Engineers Club of Tulsa. In 1956 he served as president of the latter organization.

Joining the association in 1950, Mr. Huitt immediately took an active part in its affairs. He served on the program committee and he was education chairman for several years. In 1955 he was elected secretary-treasurer and moved through the two vice-presidencies to his present position.

Youngstown P.A.'s Hear Reverend

Guest speaker at a recent meeting of the Youngstown District Purchasing Agents Association was the Rev. T. C. Scheifele, Assistant Professor of Sociology, Thiel College, Greenville, Pa. "Human Relations in Industry" was the title of Mr. Scheifele's speech.

Mr. Scheifele is a minister of the Lutheran Church, past president of the local Kiwanis International and a member of the

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Greenville Mental Health Committee. He spoke as a man with a purpose, and his audience responded.

The following new members were introduced at the dinner meeting: C. W. Dierks, Westinghouse Electric Corp., Sharon, Pa.; Herber Clark, Shenango Steel Co., Sharpsville, Pa.; and Frank Braden, professor at Youngstown College.

The Association's educational program, which is being held in connection with Youngstown College, is progressing very satisfactorily. Twenty-seven members are enrolled in the night class, and eleven in the day class. Committee Chairman, Tom Lewis, had done a fine job in lining up several members from the Association to speak at some of the classes.

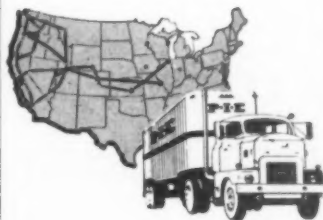
The Christmas party, held at Tippecanoe Country Club, was considered a huge success by those attending.

The pre-meeting forum was led by Tom Lewis. "Should we make or buy" was the subject up for discussion.

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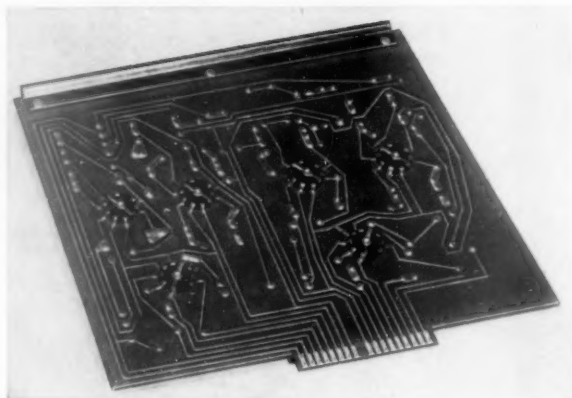
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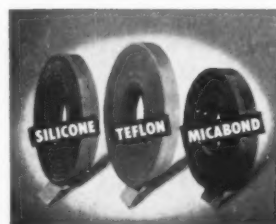
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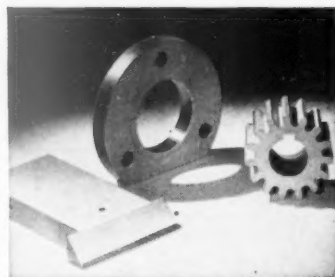
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keeps costs down

Known for over sixty years as the standard of quality in fibre, Diamond® Vulcanized Fibre is made in many grades (bone, fish-paper, trunk, commercial, built-up) and is available in sheets, rods, tubes, strips, rolls, fabricated parts, and formed specialties. Write for Catalog DVF-58.

LOW-COST VULCOID is Resin-impregnated Vulcanized Fibre.

Vulcoid (made only by CDF) is an intermediate insulation material. It combines the desirable arc-resistance and mechanical properties of vulcanized fibre with many of the good qualities of a phenolic laminate. UL-approved as Class A insulation in electrical equipment. Bearing applications requiring high precision have been successful with Vulcoid. Write for Bulletin V-58.



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Celoron is a molded-macerated and/or combination laminated base bonded with phenolic resins. High strength, long life, and low cost are the characteristics of molded electrical or mechanical parts made from CDF Celoron®. Its good electrical properties make Celoron an ideal molded insulator, while its high mechanical strength makes it an excellent material for gears, couplings, intricate loom parts, etc. Write for CDF Catalog C-58, or contact your nearest CDF sales engineer.

PURCHASING NEWS



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DILECTO®, made in scores of grades, are high-quality laminated plastics made for rigorous duty in electrical, electronic, and mechanical equipment. Characteristics vary with the grade, so get the expert assistance of your CDF sales engineer.

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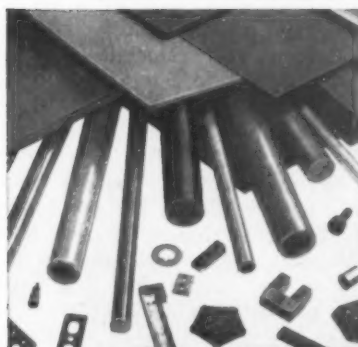
Phenolic	Epoxy	Polyester
Heat-resistant Phenolic	Melamine	Teflon*
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CDF gives fast technical and delivery service on sheets, tubes, rods, or complete fabricated parts of Dilecto plastics. Write for Catalog D-55-C.

*duPont trademark for its tetrafluoroethylene resin



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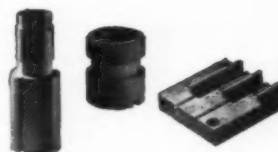
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Association News

British Columbia P.A.'s and Sputniks

"Sputniks, Space and Spending Money" was the subject for the monthly meeting of the Purchasing Agents Association of British Columbia held recently at the Vancouver Hotel.

The speakers were Professor J. R. Dempster of the Department of Physics and Professor F. K. Bowers of the Department of Electrical Engineering from the University of British Columbia.

Professor Dempster explained the tremendous thrust, up to 400,000 lbs., necessary to successfully launch a space satellite 300 miles above the earth. He illustrated how it is possible to keep the satellite in its orbit. He used a tape recording of an actual broadcast of sputniks' transmitter waves as it approached and passed over Vancouver.

Professor Dempster stated that the superior fuel used by the Russians was the reason they had

been so successful in this field. He felt that while the satellite has great military value for reconnaissance, target location and selection and intelligence, it was of greater scientific value.

Professor Bowers spoke of the fantastic cost (\$4,000,000) for one intercontinental missile, and said Canadians would have to make great sacrifices to science or accept the role of a pacifist nation. He suggested that some changes would have to be made in our educational program to attract students to science at an earlier age.

In answer to a question from the floor, Professor Dempster said it was possible, within the next 10 years, to land a satellite on the moon and return, but that with the present type of rocket it would take 2½ years to reach Mars and return.

Vern A. Dawe thanked the speakers for the very effective way they had presented this very interesting and educational program.

President Nursey at the business meeting announced the re-

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sult of the ballot regarding lady members. The majority were in favor, and lady member applications will now be considered.

An earlier meeting consisted of a very interesting plant visit to the Sicks Capilano Brewery Ltd., which is one of Canada's most modern. The members were shown the very latest brewing methods in operation, and later were given the opportunity of sampling the fine product. Needless to say this meeting was very well attended and enjoyed by all.

Ahl Speaks to Rhode Island P.A.'s

The popular executive secretary-treasurer of the National Association of Purchasing Agents, Mr. G. W. H. Ahl, recently addressed the Rhode Island Purchasing Agents Association. The subject of Mr. Ahl's talk was "To All from Ahl", a subject devoted strictly to purchasing. As usual, Mr. Ahl's words were well received.

The Board of Directors of the Association approved membership applications for Frank De Palo, Sweet Manufacturing Company, and Louis F. Meehan, H & H Screw Products Mfg Company.

Dayton P.A.'s Discuss Plastics

The Purchasing Agents Association of Dayton, Ohio, Inc. held a discussion entitled "Getting Acquainted With Plastics." The discussion, led by Mr. Benkleman, Cadillac Plastics, covered the properties and application of plastics and what they will do in common plant use.

The discussion included teflon, nylon, acrylic, vinyl, polyethylene, acetate, styrene, phenolic, fiber glass. Five common fallacies about plastics were brought out. A slide-film, "Talking Plastics," opened the presentation.

The swap session discussed the subject "How to Tell Management What Purchasing Does." J. L. Dobaldson, chief forms consultant, standard register was present to add his ideas to the discussion.

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Association News

Newspaper Buyers Organization Launched in Louisville

Purchasing executives from twenty-three leading metropolitan newspapers met recently at the Brown Hotel in Louisville, Ky., for a two-day conference to launch a permanent but informal organization of newspaper buyers. Plans are for the organization to hold an annual conference in a city to be selected by the group's executive committee.

T. A. Corcoran and Owen Lewis were responsible for setting up the Louisville meeting, to which thirty-eight newspaper purchasing executives were invited. Louis Davis, Los Angeles Times-Mirror, was elected chairman. Other officers are George L. Quinn, Minneapolis Star and Tribune, first vice chairman; Owen D. Lewis, Piedmont Publishing Co., Winston-Salem, N.C., second vice chairman; and Daniel J. Lewis, Christian Science Monitor, Boston, treasurer. T. A. Corcoran, Courier-Journal and Louisville Times, who with the Purchasing Agents Association of Louisville played host to the new group, was named to serve on the new organization's executive committee.

Speaker for the first conference was Lisle Baker, Jr., vice president and general manager, Courier-Journal and Louisville Times Co. Mr. Baker advocated complete centralization of purchasing for metropolitan newspapers. "The mere mechanics of making purchases of materials and services, receiving and checking them, checking and approving invoices, designating the proper accounting charges and paying the accounts makes it necessary that we have a centralized and orderly procedure for this purpose."

"However," he added, "it is not in procedure alone that we are interested. The theory of centralized purchasing is that the department shall make a business of it and shall be thoroughly conversant with quality, availabilities, prices, price trends, sources

of supply, discount possibilities and trade-in and return potentials. The purchasing department is also charged with the adoption of standards and of standardization of items which are widely used."

Aside from Mr. Baker's speech, the two-day conference consisted of open forum discussion concerned with topics such as reduction of the cost of newsprint, disposal of surplus and obsolete material and equipment, how to encourage centralized purchasing in newspapers, and standardization of equipment and materials. Altogether, thirty-two topics were discussed.

Panel discussions of "best buy" ideas were presented by Owen Lewis, Piedmont Publishing Co., Winston-Salem, N.C.; T. A. Corcoran, Richard E. McGrath and H. J. Laufer, all of the Courier-Journal & Louisville Times; Eugene P. Parrish, St. Petersburg Times; George L. Quinn, Minneapolis Star and Tribune; Daniel J. Lewis, Christian Science Monitor, Boston. George N. Barrett, Philadelphia Bulletin, served as moderator.

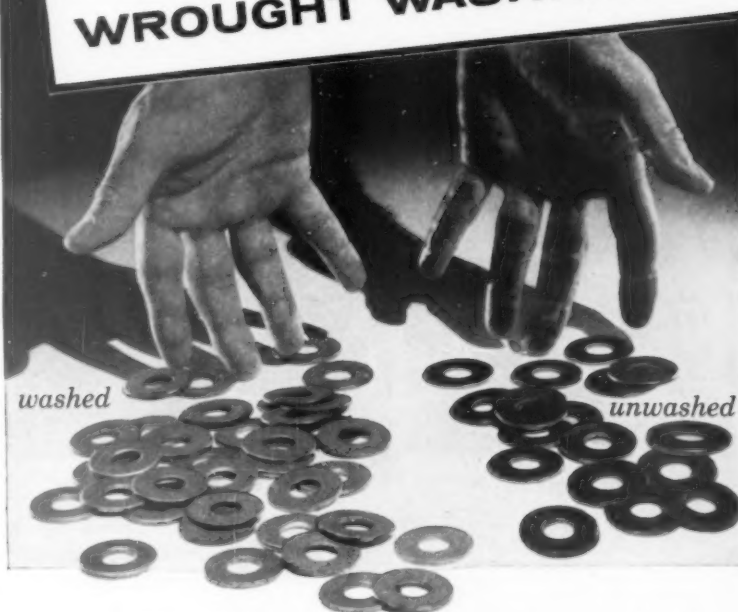
One of the conclusions of the forum discussions is that few newspaper managements give their purchasing departments full authority and responsibility. However, the conference leaders demonstrated that centralized purchasing pays handsome dividends. The forum discussions revealed that major savings brought about by purchasing department personnel have materially affected newspapers' profit positions.

Toledo PA's Visit Plymouth Plant

Jack Kirkbride, plant visitation chairman of the Toledo Purchasing Agents Association, arranged a tour through Plymouth's Automated Engine Plant, which the members found interesting.

After the tour the group had cocktails and dinner with the Purchasing Agents Association of Detroit at the Fort Shelby Hotel. The Purchasing Agents Association of Ann Arbor was also there. Mr. Robert E. Shillady, president of the National Association of Purchasing Agents, spoke.

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with WASHED
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A8-9407

Purchasing People In The News

Herbert A. Atkins has been appointed director of purchases for Philip Morris Inc., New York. He will make his headquarters in



Herbert A. Atkins

Richmond, Virginia, where the company has large factories and warehouse operations. This marks the first time that a director of purchases for the company has operated out of Richmond. In the past, New York City has been the center of the company's division. Mr. Atkins, who joined the company in 1926 as traffic and supply manager, has been field representative for the purchasing department since 1950. In this capacity he concentrated on supplier relations and the development of new supplier sources. A member of the Old Dominion Purchasing Agents Association, Mr. Atkins was a director of that association from 1954 through 1955.

Schering Corporation, Bloomfield, New Jersey, has announced the following changes in the responsibilities of buyers in the purchasing department. **Fred T. Pickerell**, who has been the buyer for packaging materials, will assume the added responsibility for purchasing bulk chemicals. **James Bader**, who has been a purchasing assistant, will become buyer for all chemicals and equipment for the research operations of the company. **Peter Bachner** has been assigned as a buyer for stationery stock, office equipment and maintenance supplies.

A reorganizational change which will place supervisory responsibilities for production and procurement under a single man-



Mervin T. Flock

ager, has been announced by De Laval Steam Turbine Company, Trenton, New Jersey. **Mervin T. Flock** has been promoted to the new position of production and procurement manager. Associated with the company since 1919, Mr. Flock became production su-



Richard P. Sprigle

perintendent in 1928 and promotion manager in 1950. **Richard P. Sprigle** has been appointed purchasing agent. He came to the company from the Borg-Warner Corporation where he served in supervisory purchasing positions. Mr. Sprigle is a graduate of the University of Miami and Harvard University. He is a member of the board of directors and chairman of the membership committee of

the York County, Pennsylvania Purchasing Agent's Association.

Three personnel changes in the purchasing department of the Axle Division have been announced by Eaton Manufacturing Company, Cleveland, Ohio. **Robert Gale**, a production buyer has been promoted to supervisor of supplies purchases. **Richard H. Shelley** has been appointed production buyer to succeed Mr. Gale. **Alfred A. Michaud**, a buyer of tools, has been named production parts buyer.

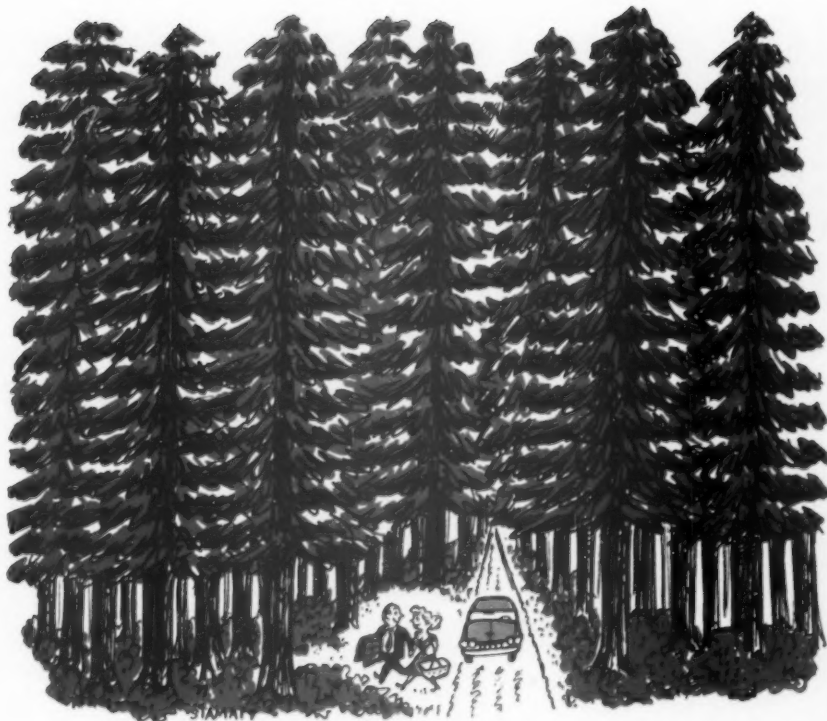
Appointment of **Robert Twells** as group executive in charge of the company's Spark Plug Division has been announced by Electric Auto-Lite Company. He will coordinate purchasing, production, sales and engineering.

George L. Hemmerly has been appointed purchasing agent of Mathews Conveyor Company, Elwood City, Pennsylvania. Mr. Hemmerly succeeds Chesly A. Paul who has retired after 41



George L. Hemmerly

years of service. Mr. Paul will continue to serve as a member of the board of directors of the company. Associated with the firm since 1935, Mr. Hemmerly started in the order department. He has held various managerial positions until he became assistant purchasing agent in 1948. Mr. Hemmerly represented the conveyor industry on the N.P.A. in Washington in 1952.



To a purchasing man too busy for romance in a pine forest

It's always a temptation for paper guys to expect customers to enjoy a sentimental journey through the majesty of their pulp source.

We *do* love our vast pine forests—but could you care less? Here's our story stripped to fit your interest. A few words and no music.

Crossett Paper Mills makes kraft wrapping papers in a full line of grades, weights and sizes. It's darn good kraft and it's prominently branded with our name "Leatherneck." It's sold only through the authorized paper merchants listed at the right. Not only its consistent quality, but the policy under which it is sold sets it apart from kraft from other mills.

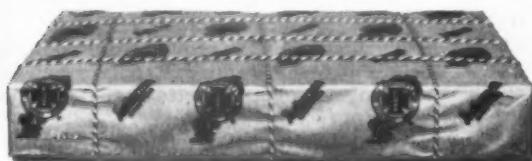
As a customer of this independent mill producing raw kraft stock only, the merchant who sells you is assured of his supply in all markets through the Crossett policy of reserved machine time. This assurance of steady supply to meet regular needs is passed on to you.

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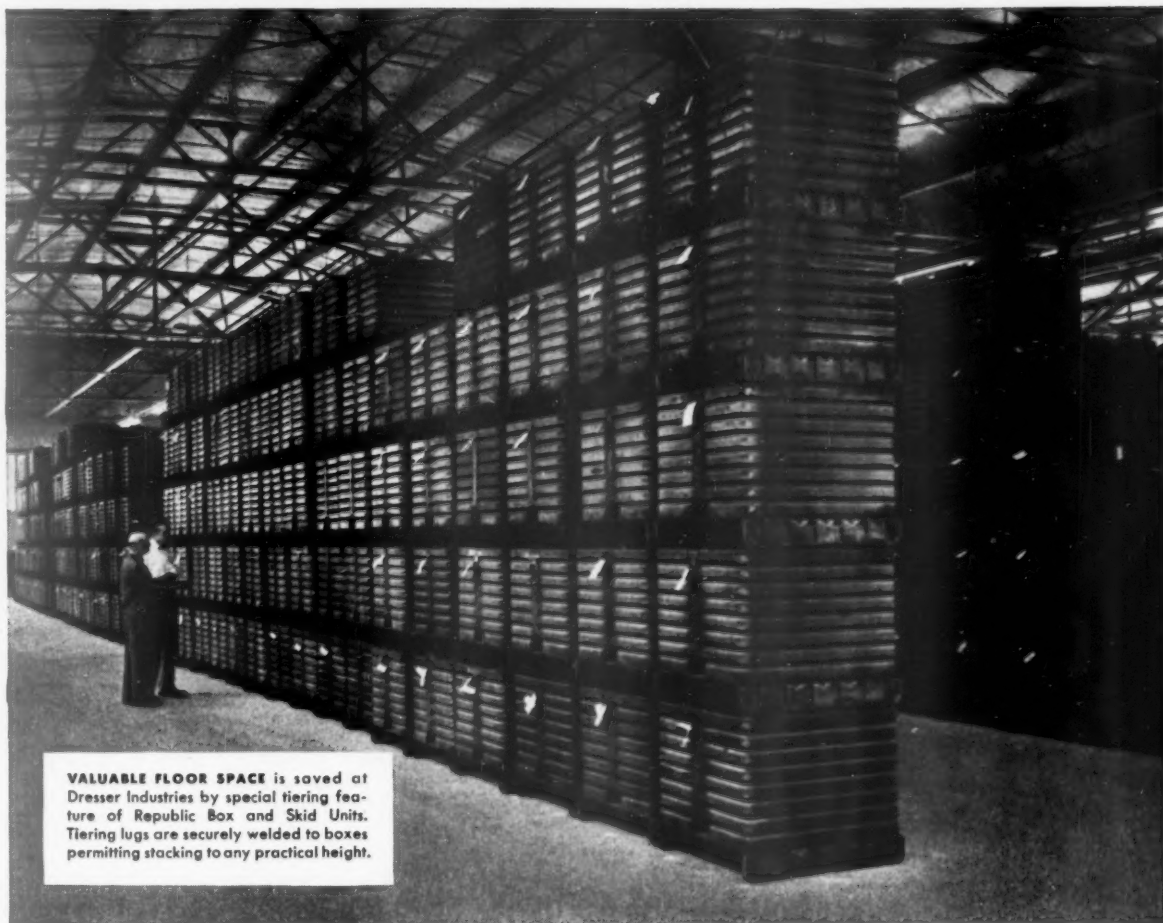


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SAVE SPACE, CUT COSTS, IMPROVE INVENTORY CONTROL



VALUABLE FLOOR SPACE is saved at Dresser Industries by special tiering feature of Republic Box and Skid Units. Tiering lugs are securely welded to boxes permitting stacking to any practical height.

THESE REPUBLIC BOX AND SKID UNITS PERFORM FOUR JOBS, CUT HANDLING COSTS 10%. They were designed and fabricated by Republic's Pressed Steel Division for Dresser Industries' new pipe couplings and fittings plant at Wellsboro, Pennsylvania.

The multi-purpose units provide for: (1) Delivery of semi-finished parts to production stations for final machining. (2) Feeding of parts to machines in combination with hoppers built by Dresser's Ideco Division. (3) Receiving finished parts as they come off the machining line. (4) Storage of finished parts until ready for shipment.

Plant management estimates a saving of 10% in han-

dling costs since the Republic Box and Skid Units were placed in service. Also, it is possible to maintain an accurate inventory of both finished and semi-finished parts and to reduce storage space requirements.

Future savings in maintenance costs should be realized because corrugated-steel construction of the boxes and skids provides strength, assures long service life at lowest per-year-cost.

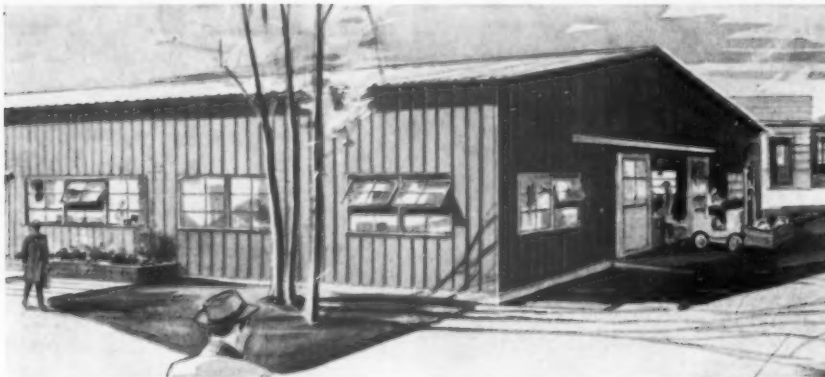
Now is the time to talk over your handling or storage problems with a Republic Engineer. A specially designed or a standard unit could cut your costs or simplify an operation. No obligation. Just contact your Republic Materials Handling Representative. Or mail the attached coupon.



CONTINUOUS MATERIAL FLOW to machines is a time and cost saving feature of Republic Box and Skid Units used in combination with Dresser-designed hoppers. Specially designed opening in front of box hooks and locks on hopper. Lift truck operator trips dumping mechanism with truck forks. Idle machine time is eliminated.



NEW SLOTTED CONSTRUCTION ANGLE MEETS ALL FRAMING NEEDS. That's BILD-A-FLEX, designed and engineered by Republic's Berger Division. It's versatile, durable, unlimited in application. Use it as "metal lumber". Plan your assembly, cut BILD-A-FLEX, join with bolts. Longitudinal and transverse slots on $\frac{3}{4}$ -inch centers make adjustment easy. Bonderized and finished with baked enamel. Ten angles per bundle, light or heavy gage, 10- or 12-foot lengths, with hardware. Bundle stores in same space as one 2" x 4" piece of lumber. Send coupon for catalog loaded with ideas.



NEW "BUDGET BUILDINGS" by Republic's Truscon Steel Division brings the cost of additional storage space down low. It's a quality steel building with a tight, dense, galvanized coating that's more rust-resisting than ever. Simplified design permits fast on-site erection. No painting needed. Your "Budget Building" order will be handled fast from off-the-shelf stocks. Immediate delivery in widths of 32, 36, 44 and 48 feet . . . 12- and 14-foot heights. Lengths as long as you want them. Send coupon for complete details.

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For the economical, complete suppression of mist and spray in your decorative chrome plating baths . . . with the biggest savings in chromic acid solution, see your local Udylite representative today and start using New DUAL-ACTION Zero-Mist H.T.-2 right away.



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Purchasing People

George J. Wist has been named purchasing director of Anchor Post Products, Inc., Baltimore, Maryland. An employee of the firm since 1928, Mr. Wist was elected assistant secretary of the company in 1947. He replaces Frank K. Read who has retired after an association with the company of over 17 years. Mr. Read was made assistant to the purchasing director in 1947, and assumed the duties of his superior upon his retirement in 1953.

Two new purchasing assignments have been announced by The Trane Company, La Crosse, Wisconsin. **E. C. McLaughlin** has



L. A. Brewer



E. C. McLaughlin

been named purchasing agent of the company's manufacturing division in La Crosse, **L. A. Brewer** has been appointed purchasing agent of its new manufacturing division nearing completion in Clarksville, Tennessee.

Joseph W. Scott has been appointed to the newly created position as assistant director of purchasing and office services for Mutual of New York, New York City. He has been with the company since 1948. In his new post, Mr. Scott will be in charge of the purchasing and office services division and will have expanded responsibilities within the office operations department.

CORRECTION

In our February 3 issue, the names and photographs of **George W. Woodsum** and **Thomas H. Ferry**, recently named to new purchasing positions for International Business Machines Corporation were inadvertently transposed.

Sinclair Refining Company, New York, has announced the appointment of **J. W. Wakefield** as division purchasing agent for the Eastern division with headquarters in New York City. Mr. Wakefield has held a similar position for the company's Southwestern division at Fort Worth, Texas. **R. W. Anderson** will succeed Mr. Wakefield and in that capacity will also act as purchasing agent for the Fort Worth and Midland divisions of Sinclair Oil & Gas Company. **J. D. Raitt**, who has been acting as division purchasing agent for the Eastern division, will continue on the staff of the home office purchasing department as buyer in the marketing equipment division.

Hooker Electrochemical Company, Niagara Falls, New York, has promoted **Charles W. Selover** to manager of purchases of the company plants at Niagara Falls



Charles W. Selover

and North Tonawanda. He has been purchasing agent for raw materials since February, 1956. At this time he was transferred from the Durez Plastics Division, following the merger of the two companies the previous year. Mr. Selover started his business career in 1929 in the accounting department at Durez. He became assistant treasurer and credit manager in 1937, the position he held until his appointment as purchasing agent in 1947.

Clinton C. Bishop, purchasing agent of Alan Wood Steel Company, Philadelphia, has been elected president of the Purchasing Agents Association of Philadelphia.

MARCH 3, 1958



Coat it, forget it...for years

Use Aluminum Paint with Reynolds Aluminum Pigment



These men are doing a job that won't have to be re-done for a good many years. The aluminum paint they're putting on is actually a tough *shield* that will stand up against rust and corrosion, and won't need attention for years.

A quality brand of aluminum paint applied as the manufacturer recommends assures extra years of protection. Often one coat will do the job.

Inside your plant or outside, paint made with Reynolds Aluminum Pigment can save metal or masonry from deterioration, cut maintenance. Also use it to give your plant the modern look of aluminum.

Aluminum paint reflects heat, keeps the buildings cooler in summer, slows evaporation of volatiles and reduces metal expansion. And it reflects light

to make interiors brighter, more attractive. Use aluminum paint, the modern finish, to keep your plant looking new. For more complete information write for the literature listed below.

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Build-up or metal roofs last longer, resist rust, keep buildings cooler when coated with asphalt-aluminum roof paints or coatings. The best of these roof coatings have this Warranty Seal, guaranteeing an approved vehicle and at least two pounds of pure aluminum pigment per gallon.



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Dustlessness of Sol-Speedi-Dri helps Miniature Precision Bearings, Inc. hold 0.0005" tolerance



Keene, N. H. firm—voted "Plant of the Year" in 1957—sparks production, keeps floors dry, clean and safe with Sol-Speedi-Dri.

The slightest amount of dust would seriously affect production tolerances at MPB—a firm that produces miniature bearings, some of which are so tiny that a thousand weigh only three ounces.

What you see on the floor around MPB's battery of automatic screw machines is a carpet of Sol-Speedi-Dri oil and grease absorbent. The biggest reason why it's there is because of its dustlessness when put down, and its resistance to breakdown in service.

Routine maintenance item? Not on your life! Teamed with the other innovational features at MPB, Sol-Speedi-Dri works 24 hours a day towards improved production... increased earnings.



Thirstiest... and thriftiest, says MPB

In addition to dustlessness, MPB selects Sol-Speedi-Dri for other solid reasons: Soaks oil up off the floor and holds it—no "leaks," no slippery scum; most efficient volume-per-pound floor coverage; bag-after-bag, year-after-year uniformity; friend of safety engineer and production man alike.

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Purchasing People

Southern Indiana Gas and Electric Company, Evansdale, Indiana, has appointed **W. B. Welge** purchasing agent. He replaces **F. E.**



W. B. Welge

Thompson, who has retired after 35 years as purchasing agent. A veteran of 28 years with the company, **Mr. Welge** has been the firm's field auditor for the past two years. Prior to 1955, he had been assistant purchasing agent for ten years. He has spent more than 20 years in the company's purchasing department. **A. P. Tirmenstein** has been made assistant purchasing agent. **Mr. Tirmenstein** has been a buyer of construction materials for the past two years. He has been associated with the company for eight years.

E. Frank Duski of A. S. Beck Shoe Corporation, New York, was the guest of honor recently at the annual dinner of the Purchasing Agents Division of the Federation of Jewish Philanthropies in New York. The federation celebrated its fortieth anniversary this year.

J. R. Wible has been named director of purchases for the Chase Bag Company, New York. Associated with the firm's manufacturing branch in Philadelphia since 1948, **Mr. Wible** replaces **F. H. Rhoden** who has retired. **Mr. Rhoden** was associated with **W. & J. Sloane** and for 20 years was manager of the East India department of **W. R. Grace & Company**.

MARCH 3, 1958

FAIRBANKS

	<p>125 lb.</p> <p>125 200 FAIRBANKS</p>	<p>150 lb.</p> <p>150 300 FAIRBANKS</p>
<p>UNION BONNET GATE VALVES</p>	<p>FIGURE U-0252 Rising Stem. Solid Wedge. Taper Seat. 125 Pounds Steam Working Pressure. 200 Pounds Cold Water, Oil or Gas Pressure. Non-Shock.</p>	<p>FIGURE U-0226 Rising Stem. Solid Wedge. Taper Seat. 150 Pounds Steam Working Pressure. 300 Pounds Cold Water, Oil or Gas Pressure. Non-Shock.</p>

Two-Piece Union Bonnet Construction For Extra Easy Assembly And Disassembly

Two-piece **Radial Seat Union Bonnet Construction** provides extra easy assembly, long service, dependability that gives you extra value. **Radial Seat** provides line contact through accurately machined true ball and socket mating surfaces, for leakproof body bonnet joint. Two-piece construction eliminates sliding or scraping — prevents scoring — of body and bonnet mating surfaces during assembly and insures even contact pressure for perfect alignment of working parts. Heavy union nut will not deform under pressure and protects body and bonnet from distortion. Valves may be repacked under pressure when wide open—top seat above threads—out of line of flow—is protected against deposits and excessive wear.



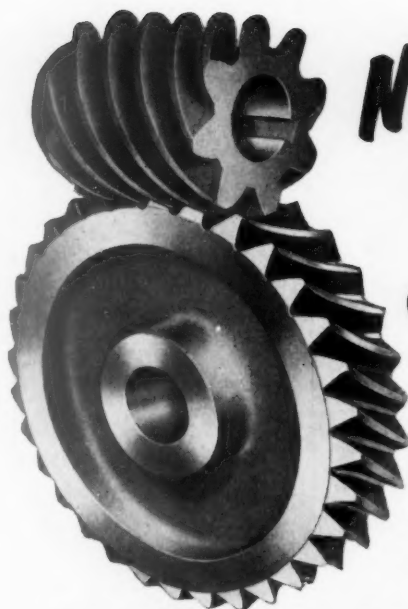
SERVICE: Recommended for general service on steam, water, gas, and oil lines where full, unrestricted flow is desired. Valves give long trouble-free operation.

YOURS ON REQUEST: Colorful, illustrated brochure fully describes Fairbanks Bronze Gate Valves with Union Bonnet Construction, complete with specifications and details. Write for your free copy today.

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NEED WORM SETS?

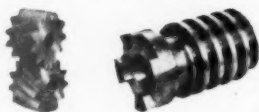
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Tell us your needs. We're specialists in cutting worm gear sets. Whatever your specifications call for... from small control valves to heavy machinery... you'll appreciate Sewall's service. You'll benefit from Sewall's vast experience in supplying exacting customers.

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Our reputation is based on quality, service and price. If you're like our regular customers you're vitally concerned with these three factors when you buy gears. (1) Gears must meet your specifications exactly, in strict accordance with your prints. (2) Gears must be delivered as scheduled. (3) The price must be reasonable. Sewall gears are made by men who are fussy about specifications. We have a wide range of late-model machine tools, inspection instruments and checking equipment regularly serving customers across the nation. Our large modern plant is handy to rail, truck and air transportation.

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The Sewall Story
...richly illustrated
with in-plant photos
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Purchasing People

A realignment of duties of the purchasing section has been announced by Industrial Nucleonics Corporation, Columbus, Ohio. **G. M. Kohlbrand** has been promoted from expeditor to buyer-expeditor. In this capacity, Mr. Kohlbrand will be responsible for contracting for the negotiation of



G. M. Kohlbrand R. E. Miller

rejected material and for the disposal of surplus material and scrap. He will continue to supervise the expediting function in the section. Connected with the firm since 1955, Mr. Kohlbrand previously had been an expeditor in the purchasing department of General Electric Company, Cincinnati, Ohio. **Richard E. Miller** has been advanced from buyer-expeditor to buyer. He will buy MRO supplies, perishable tools and operating supplies. Mr. Miller joined the company in 1954, having previously worked as an expeditor for North American Aviation.

Appointment of **Lawrence L. Garber** as group executive coordinating accounting, purchasing, production, sales and engineering of the company's seven United States battery plants has been announced by The Electric Auto-Lite Company, Toledo, Ohio.

T. Kenneth Smith has been named manager of the contract section of the purchasing department for Diamond Alkali Company, Cleveland, Ohio. **Howard O. Scott** has been promoted to buyer of lumber and mill supplies the position formerly held by Mr. Smith. Mr. Scott's previous position as buyer of office furniture, supplies, printed forms and safety equipment will now be handled by **Lynn W. Babcock**.

Clevite Transistor Products, Waltham, Mass., has announced the appointment of **Wentworth T. Howland** as director of purchases and production control. **Graham C. Hird** has been named purchasing agent. Both men have been associated with the company for about four years. Mr. Howland was previously connected with a mechanical rubber goods manufacturer. Mr. Hird was formerly in the power equipment industry.

Eaton Manufacturing Company, Cleveland, Ohio, has appointed **Harry R. Matheny** price analyst in the purchase research and analysis section of the central purchasing department. **Howard B. Gordon** has been promoted from the corporate training group to the purchase and analysis section. He replaces **Richard H. Shelley** who has completed two years of service with the purchase research group and has been advanced to buyer in the Axle Division purchasing department.

The appointment of **John S. Lund** as purchasing agent has been announced by Lewis-Shepard Company, Watertown, Mass.



John S. Lund

Mr. Lund succeeds Frank A. Gray, who has retired after 38 years of service with the company. Previously a buyer for the firm, Mr. Lund will be responsible for all activities of the company's purchasing department. **Marie Gibson** has been promoted to the newly created position of assistant purchasing agent. Mrs. Gibson has been associated with the company for the past 33 years.

MARCH 3, 1958



from CONTINENTAL a lustrous new **TINNED WIRE**

Here's smoothness and luster you rarely get in tinned wire. Continental's special technique makes possible an enduring, uniformly bright finish . . . a wire so bright that it can replace plated wire on many products. It retains its brightness for long periods of time in normal use. Continental tinned wire meets your needs for quality and workability and is available in almost any temper and analysis in medium low carbon and low carbon steels.

FINE—16 gauge through 30 gauge, in 8" diameter coils

COARSE—20 gauge through $\frac{1}{8}$ ", in 16" and 22" diameter coils.

For smooth beauty and high degree of perfection in wire, you will want to investigate Continental Tinned Wire. Write or Telephone—today; or return coupon below.

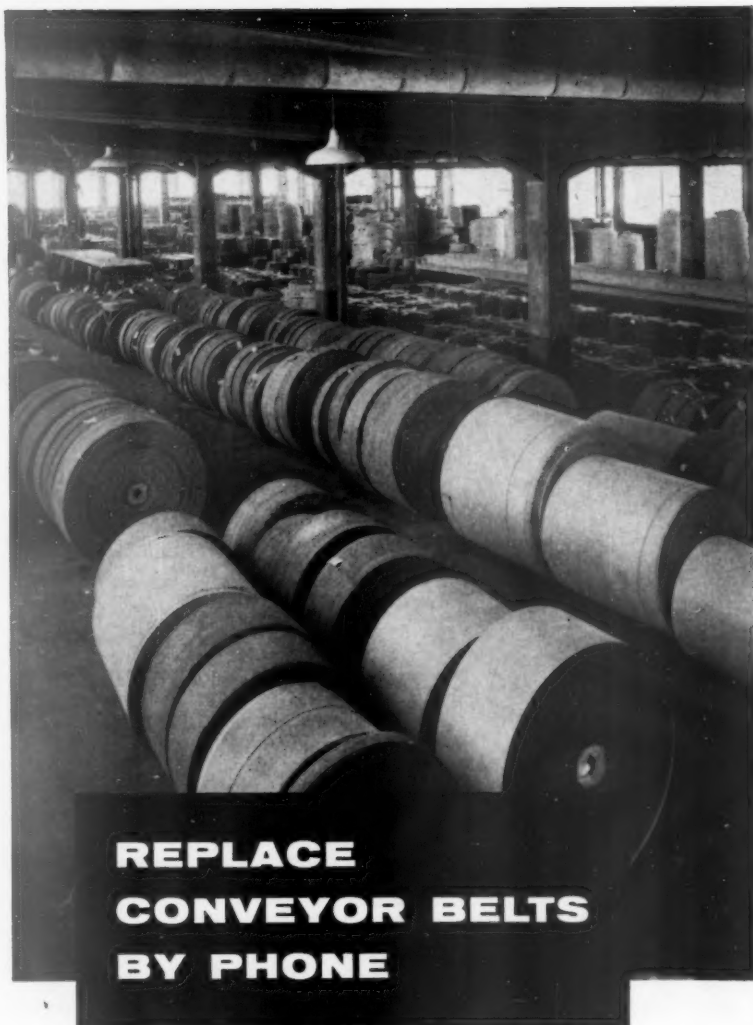
FILL OUT AND RETURN COUPON TODAY

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____
☐ Send Complete Details ☐ Have Salesman Call

CONTINENTAL STEEL CORPORATION • KOKOMO, INDIANA

PRODUCERS OF: Manufacturer's Wire in many sizes, tempers, and finishes, including Galvanized, KOKOTE, Flame Sealed, Coppered, Tinned, Annealed, Liquor-Finished, Bright and special shaped wire. Also Welded Wire Reinforcing and Galvanized Fabric, Nails, Continental Chain Link Fence, and other products.

For More Information Write No. 249 on Inquiry Card—Page 32



REPLACE CONVEYOR BELTS BY PHONE

In nation-wide stock for immediate delivery are H-R conveyor belts in sizes and grades for virtually every service. Orders placed by phone are processed the same day in the H-R warehouse nearest you to assure fastest shipment.

Available from stock are: *Maltese Cross*—for severest, heavy-duty handling of trap rock, stone, ore, etc.; *Ajax*—for general use such as conveying coal, sand, gravel, crushed stone; *Conserve*—for moderate general service with economy; *Monarch*—for special applications requiring resistance to oils and chemicals.

Breakdown service? When non-standard belts are needed *fast*, as a result of a breakdown, Hewitt-Robins can ship special, factory-built belts within one week or less! To order the type and size best suited to your requirements, call your nearest H-R representative, or Hewitt-Robins, Stamford, Connecticut.



HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS... POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE... VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

For More Information Write No. 250 on Inquiry Card—Page 32

Purchasing People

Chicago Apparatus Company, Chicago, Illinois, has named **Richard E. Blandford** acting director of purchases. Mr. Blandford has been customer services manager of the company for the last year and a half. He replaces Stanley P. Dodd, technical director, who has been acting director of purchase since the death last September of Edgar P. Schumann.

James B. Mackey has been promoted to purchasing agent for Sloan Valve Company, Chicago, Illinois. A veteran of 29 years with



James B. Mackey

the company, Mr. Mackey started his career in the cost department until 1943, at which time he was appointed production control manager. He has held this posi-



Hubert F. Arthur

tion until his recent promotion. Mr. Mackey succeeds **Hubert F. Arthur** who has retired after an association with the firm since

1921. Mr. Arthur started as assistant purchasing agent and two years later he was appointed purchasing agent, the position he has held until his retirement. He was recently honored at a dinner given by the company. Among other gifts, Mr. Arthur was presented with a golden shower head, a product of the company. This presentation is emblematic of membership in the company's honor society, "Royal Order — Knights of the Golden Shower."

J. J. Cuniffe has been appointed chief purchasing engineer of Pioneer Service & Engineering Company, Chicago, Illinois. He succeeds **E. V. Cullen**, vice president, who has assumed promotional and special assignments.

Knox Glass Incorporated, Knox, Pennsylvania, has appointed **Harold S. Wahlner** to the position of general purchasing agent. All



Harold S. Wahlner

purchasing activities of the firm, except for emergencies, will be centralized at Knox headquarters. The move is designed to create new operating efficiencies as well as to establish cost savings in its yearly purchases. Mr. Wahlner, a veteran of the glass container manufacturing industry, had been assistant purchasing agent for a large competitive company.

SEE PAGE 32

FOR

INQUIRY CARD

MARCH 3, 1958



Cutaway view of SEALMASTER Ball Bearing Pillow Block Unit.



SEALMASTER sales records are a veritable log-book of customer satisfaction and repeat business. SEALMASTER'S exclusive combination of engineering features deliver performance over and beyond expectation. They return the kind of performance that makes new SEALMASTER customers wonder why they waited so long to become acquainted with SEALMASTER quality. What is true in the case of each of these customers will also be true with you. If you use bearings in equipment you manufacture, you'll want to pass along the plus-performance dividend of SEALMASTER. You'll also want to specify SEALMASTER Units for the machinery you operate within your own plant. Find out today, what SEALMASTER quality can do for you!

Write for your copy of Bulletin 454 today.



	NAME _____
	FIRM _____
	STREET _____
	CITY _____ STATE _____

SEALMASTER BEARINGS A DIV. OF STEPHENS-ADAMSON MFG. CO. 51 RIDGEWAY AVE., AURORA, ILL.
For More Information Write No. 251 on Inquiry Card—Page 32

Industry Developments_____

Metrology Laboratory Service

Helps Untangle Thread Problems

THE FIRST TWO in a network of three screw thread metrology laboratories have been opened by Standard Pressed Steel Company. The completed facilities are in the Jenkintown, Pennsylvania headquarters plant and at the Cleveland plant of a subsidiary, The Cleveland Cap Screw Company. The third laboratory is expected to open this month at SPS Western—a new division of the company nearing completion in Santa Ana, California.

The three nearly identical units will make available to precision industrial fastener users seeking the service more than \$300,000 worth of advanced screw thread measuring equipment. The goal will be to meet the demands for mechanical precision and to reduce production losses from fastener assembly problems.

For its study of fit problems, each lab is equipped to measure all screw thread elements—diameters, angles, lead, radii and others; to check and if needed, set related thread gages and set masters; and to run close dimensional checks of the possibly faulty threading tools, themselves.

Primary measuring equipment includes precision lead testers for detecting deviations in thread spacing; a new universal measuring machine to check diameters of

internal threads and a profilimeter to measure surface finish of thread flanks and other screw elements to within one-millionth of an inch. Large optical comparators permit close study of minute screw thread details enlarged 100 times on a viewing screen.

The laboratories are equipped

for threadsize control of classes 3A, 3B, 2A and 2B unified screw threads and of ANPT and NPTF types of tapered threads.

The three new labs will form a separate branch of SPS Laboratories, which function virtually as a company-wide bureau of standards in Jenkintown.



A corner of this laboratory shows part of the screw thread gaging equipment to help solve fit problems for fastener users.



Machine (right), shown checking diameter of screw thread ring gage, measures to within ten-millionths of an inch.

Industry

The Michigan Steel Tube Products Company Detroit, Michigan, and their Miller-Shelby Division, Shelby, Ohio, have been merged into The Standard Tube Company, Detroit, Michigan. The combined companies will be known as **The Standard Tube Company** with the **Michigan Steel Tube Products Division**, located at 24400 Plymouth Road, Detroit 39, Mich.

Commercial Filters Corporation, a subsidiary of Ogden Corporation, has acquired the branch offices and warehouses of W. A. Case and Son Manufacturing Company, located in Niagara Falls, Buffalo, Rochester, Syracuse, Olean and Jamestown, New York. The distribution organization will operate as **W. A. Case Company division of Commercial Filters Corporation**. In addition to stocking the Case line of vitreous china, plumbing fixtures, etc., these branches will stock a representative line of Fulflo and CFC filtration equipment, as manufactured in their plants at Melrose, Massachusetts and Lebanon, Indiana.

The Fenn Manufacturing Company, Newington, Conn., makers of swaging machines and other metal forming equipment, has announced that the new Phelps-Dodge nonferrous tube mill in New Jersey, is equipped with Fenn rotary swaging machines. Other new large tube mills equipped with its swagers include: Scovill Manufacturing Company, New Milford, Conn.; American Brass Tube Mills at Los Angeles, California and Terre Haute, Indiana; and Anaconda American Brass in New Toronto, Canada.

Successful completion of negotiations with the Corps of Engineers for over seven million dollars of diesel-generator sets has been announced, **Kurz & Root Company, Appleton, Wisconsin**. A new plant facility has been established at Cedarburg, Wisconsin, where these new power units will be built.

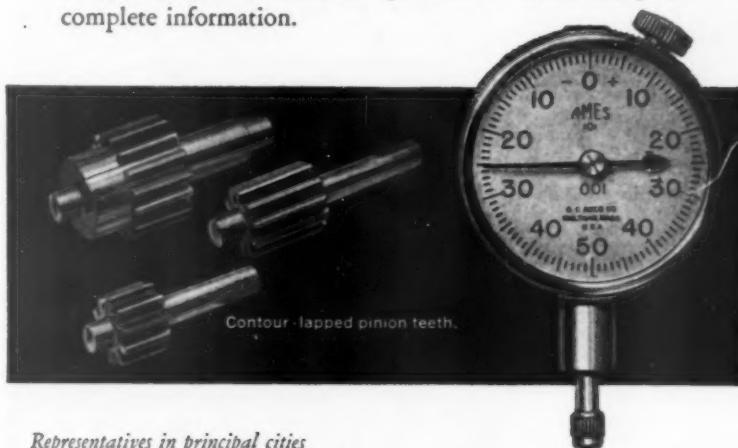
MARCH 3, 1958

AMES

*...the preferred
Dial Indicators...*

have contour-lapped pinion teeth for greater accuracy

Because tooth form determines how well pinions mesh — Ames hardens, contour laps, and carefully inspects pinions for perfect tooth form and finish. The result: Pinions that mesh perfectly, and a complete absence of accuracy-destroying "play". This extra attention to detail is typical of the Ames manufacturing approach. It helps explain why the lifetime cost of Ames Dial Indicators is lower, and why so many companies specify Ames as "preferred". Write today for complete information.



Representatives in principal cities



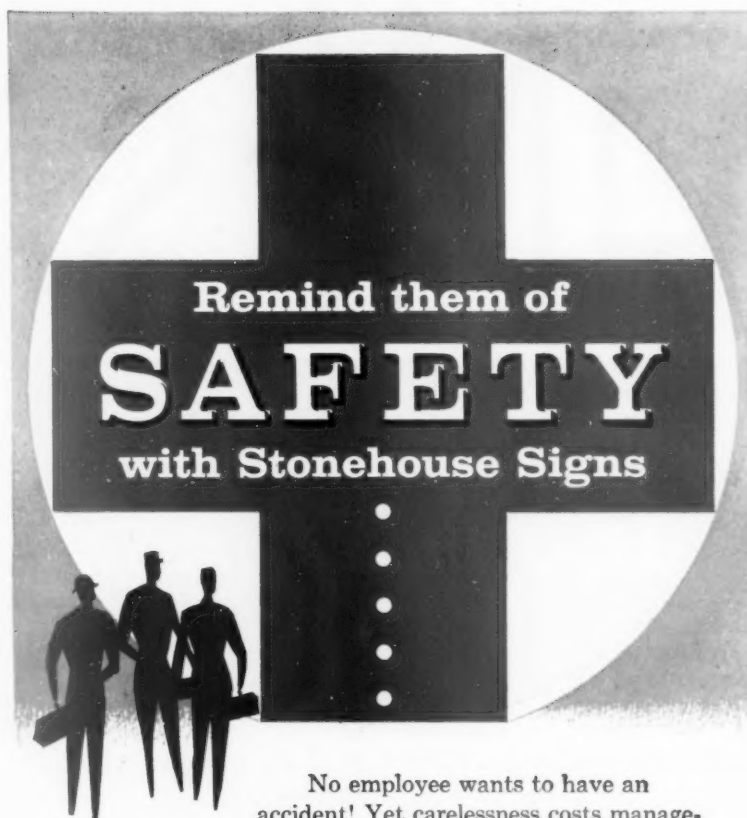
B.C. AMES CO.

31 Ames Street, Waltham 54, Mass.

MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

For More Information Write No. 243 on Inquiry Card—Page 32

Industry



**THE BEST
SAFETY DEVICE
— IS A —
CAREFUL
MAN —**

SAFETY FIRST

**SAFETY
FIRST**
WALK - DON'T RUN
BETTER BE SAFE
THAN SORRY

No employee wants to have an accident! Yet carelessness costs management and labor thousands of days of production and millions of dollars each year. Frequent reminders—particularly in places where accidents can easily happen—keep employees alert to danger and cut costly accidents. These reminders, made often and inexpensively by bright, easy-to-read signs, are an important step in an effective safety program for your company.

Stonehouse Safety Slogan and Reminder Signs are made of enduring, tested materials, and meet American Standard specifications.

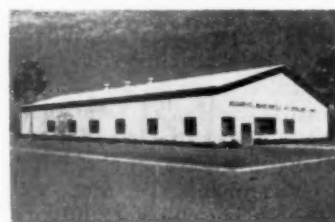
* Write today for our free, full-color, 64 page catalog of thousands of ready-to-ship safety signs, plus information about custom-printed signs to meet your special needs.

"Signs since
1863"

**Stonehouse
SIGNS**

STONEHOUSE SIGNS, INC., Stonehouse Building, 9th and Larimer, Denver 4, Colorado
For More Information Write No. 253 on Inquiry Card—Page 32

Inland Steel Company, Indiana Harbor, Indiana, has awarded to Salem-Brosius, Inc., Pittsburgh, a contract for the design and erection of two 4-zone furnaces for their structural mill at Plant No. 2. The furnaces, operating on coke oven gas or fuel oil, will be used for reheating steel blooms preparatory to rolling. Rated from 75 to 120 tons each per hour, the furnaces will have 72 ft. x 24 ft. hearths. Recuperation will be included to preheat combustion air to 750°F. Furnace pressure, temperature and the fuel and air input all will be controlled and recorded automatically.



Manning, Maxwell & Moore, Inc., Shaw-Box Crane Hoist Division, Muskegon, Michigan, has announced the opening of a new, modern fabrication and warehouse building at 8401 Mosley Road, Houston, Texas. This will serve the Southwest trading areas by prompt delivery of equipment and will supplement distributor's inventories of the division's products. It will also operate as a service repair center.

A new and remodeled research and engineering facility has been acquired by A. W. Cash Valve Manufacturing Corporation, Decatur, Illinois. It houses the complete research and development laboratory and engineering and drafting departments and a model making shop for experimental valves.

H. K. Porter Company, Inc., New York, has acquired Kidd Drawn Steel Company, Aliquippa, Pennsylvania. The new acquisition, manufacturers of drill rod and other special shapes of cold-drawn steel, will be combined.

PURCHASING

with the Vulcan Crucible Steel Division of the parent company, whose property it adjoins. W. Scott Bliss, former president of Kidd will remain as manager of Kidd products.

Erie Resistor Corporation, Erie, Pennsylvania, has announced the purchase of the assets of Hupp Instrumentation Company, Los Angeles. Hupp manufactures and designs digital instruments, primarily in the field of electronic timers, counters and related equipment. Its facilities will be combined with the Electro-Mechanical Division of Erie in Hawthorne, California.

The Dage Television Division of Thompson Products, Inc., Michigan City, Indiana, has received a contract from the Lockheed Aircraft Corporation, Georgia Division, Marietta, Georgia, for the development and manufacture of transistorized, ruggedized, airborne closed-circuit television equipment. The equipment will be used by the Air Force's 1370th air photograph and charting service located in West Palm Beach, Florida.

LeCount Tool Works, Inc., 38 Cody Street, West Hartford, Conn., has recently moved into its own new building offering improved manufacturing facilities and methods for faster service and higher mandrel quality.

**You Need Only
One Card
to Request
Additional
Information
on Any Item in
This Issue. Use
the Reader Service
Page 32**

MARCH 3, 1958



HALLOWELL steel collars simplify design and purchasing

43 stock sizes for shafts from 1/8 to 3 in. diameter

Standardized HALLOWELL solid steel collars are precision machined from first quality bar stock, have perfect balance, fine finish. Bore size stamped on face of each collar for quick size identification. Your choice of socket set screws: UNBRAKO self-locking knurled cup point or, where locking action is required with a plain cup or flat point or against extra hard shafts, UNBRAKO socket set screws with the Nylok* self-locking feature. See your HALLOWELL distributor or write for new Bulletin 868. Hallowell Collar Division, STANDARD PRESSED STEEL CO., Jenkintown 31, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

SPS Jenkintown • Pennsylvania
Standard Pressed Steel Co. • The Cleveland Cap Screw Co. •
Columbia Steel Equipment Co. • National Machine Products Co. •
• Nutt-Shel Co. • SPS Western • Standco Canada Ltd. •
Unbrako Socket Screw Co., Ltd.

For More Information Write No. 254 on Inquiry Card—Page 32



AMERICAN Tubular and Split RIVETS

In all metals, all styles,
for all industrial applications.

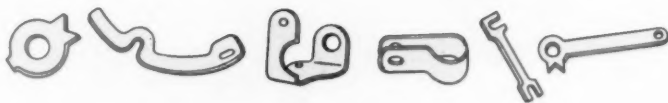
Write for price list.

AMERICAN RIVET COMPANY
849 N. Kedzie Ave., Chicago 51, Ill.

BUY AMERICAN...Tubular and Split Rivets...

For More Information Write No. 255 on Inquiry Card—Page 32

How to SAVE on STAMPINGS

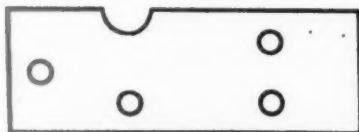


If you buy stampings, it will pay you to read these important suggestions. They will help us to help you... (1) with faster deliveries... (2) with lower prices.

Your blueprint and the data on it are our bible! We must assume that all tolerances and limitations shown are strictly essential to the functioning of the finished part.

We want to—and we will—give you *exactly* what you require. But if there are unnecessary restrictions or requirements you'll be paying more than you need to. You don't like that. We don't either.

FOR EXAMPLE:



Here's a simple, hypothetical stamping. Tolerances for all the holes and the slot are specified "plus or minus .001"—so we assume such close tolerances are essential to the proper functioning of the piece.

In the light of these close tolerances, your part would cost you \$X per M. In effect *you* set the price. We don't. But your parts, when you get them from *this*

shop, will meet every one of those specs.

Now, from long experience, we know that in many cases like this some of the requirements *could* be relaxed.

Let's say, for example, that plus or minus .003 is actually adequate for 3 of the 4 holes and the slot. It's comparatively easy to hold to .001 on *one* hole if there's a latitude of plus or minus .003 on the other holes and the slot.

How would these modifications affect what you pay? Your cost would be a *fraction* of \$X per M, probably a *small* fraction. That would make *you* happy, and us too.

OTHER WORTHWHILE POINTS:

Quantities. Order maximum. Higher quantities mean lower unit cost. Three runs of 2,000 can't cost the same as one run of 6,000.

Short Runs. If you want *short run* stampings, try to set your tolerances accordingly. It isn't practical to hold the same tolerances in Short Runs as in Production Runs.

De-burring. If you must have *all* burrs removed that's readily done. But if *smooth pieces* will do, don't specify "Remove all burrs." You'll save money.

Punched Holes. When specifying hole size try to specify a standard punch size. Saves you the cost of a custom made punch.

A WORD TO THE PURCHASING AGENT:

When requirements or specs appear more stringent than necessary, we question them with the customer. But this takes time. **Therefore—to help save time and money—we suggest you do not include any specification, tolerance or limitation for which you are not willing to pay.**

—STAMPINGS DIVISION—

"One Piece or a Million"

2403 Union Street, Glenbrook, Conn.

For More Information Write No. 256 on Inquiry Card—Page 32



Suppliers

E. George Hartmann has been elected vice president of sales for John A. Roebling's Sons Corporation, a subsidiary of The Colorado Fuel and Iron Corporation, Trenton, N. J. He replaces Ernest C. Low who has retired after 47 years of service with the corporation. W. C. Palmer, formerly sales manager of the company's Wire and Cold Rolled Products Division has been named to replace Mr. Hartmann as general product manager. F. T. Updike has been promoted from chief engineer to sales manager to succeed Mr. Palmer.

The addition of four new salesmen to its field force and the transfer of a fifth has been announced by Standard Pressed Steel Company, Jenkintown, Pennsylvania. In the one transfer, Don Seward returns to the company's district sales office after a two-year stay in St. Louis. Mr. Seward will be succeeded in St. Louis by Daniel J. Kelleher, Jr. The other sales appointments are: Arthur C. Henrie, Jr., has been assigned to Detroit; Walton Bolger, to the Buffalo district, and John S. Bierhardt, Jr., to Milwaukee.

Homer E. Ridgway has been named district manager of the Denver district for the Industrial-Automotive Division of Black & Decker Manufacturing Company, Towson, Maryland. The company has also announced the creation of a new Industrial-Automotive Division sales district to cover the territories of Hawaii and Alaska. Philo W. Lund, formerly Seattle district manager, has been named manager of the new district. John R. Anderson will replace Mr. Lund in the Northwest area.

Fairmont Aluminum Company, Fairmont, West Virginia, has opened a new Cleveland, Ohio district office. John A. Schroeder has been named district manager in charge of the new office at 1836 Euclid Avenue, Cleveland.

BOOK REVIEWS

Human Understanding in Industry

Science Research Associates \$2.25

What makes employees in my department act the way they do? How can I understand and supervise them better? What can I do to get the best effort from them? These are problems faced by every top purchasing executive. He can find some of the answers in this new 112-page handbook. Written by Dr. William C. Menninger, it presents a down-to-earth, practical view of how the human personality functions. Topics covered include: the relationship between the supervisor and his men; how people get the way they are; what personality consists of; how personality protects itself; seeing the other fellow's point of view; and making the most of our most precious resource, manpower. A Leaders Guide is also published for \$0.50 for use in conducting group discussions. Both are available from Science Research Associates, 57 W. Grand Ave., Chicago 10, Ill.

Control of Non-Manufacturing Costs

American Management Association
\$3.00 (AMA members: \$2.00)

Today profit margins are shrinking. This report shows how selected companies have applied imaginative solutions to the problems of higher costs—how they find new profit opportunities in controlling administrative costs. Companies reporting on their actual experiences in cutting costs include Lever Brothers, Gulf Oil, RCA, Johns-Manville, United Air Lines, and Joseph T. Ryerson & Son.

**FOR MORE INFORMATION
ON PRODUCTS IN
THIS ISSUE
USE INQUIRY CARD
PAGE 32**

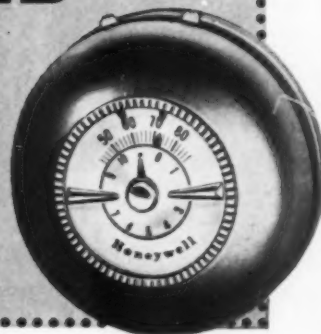
MARCH 3, 1958

CHACE
THERMOSTATIC BIMETAL
ACTUATES ANOTHER PRECISION PRODUCT

MINNEAPOLIS
the Honeywell
DAY • NITE
ROUND

H
HONEYWELL

First in Controls



*A Product Of
Minneapolis-Honeywell
Regulator Co.
Minneapolis 8, Minnesota*

No more early morning chills with this new T832 Honeywell "Round" Thermostat. You merely dial the number of hours of temperature setback desired for cool sleeping. The T832 turns your heat up so you may arise to a warm house. If you're away from the home regularly during the day, it will save fuel for you then turn on the heat before you return. The popular round style is made more attractive with its sparkling plastic timer dial. And the T832 cover may be removed and painted to suit your color scheme.

All this precision control plus a dial thermometer in a relatively small housing means that much thought went into the development of this device. Of course, both spiral actuating elements are fabricated of Chace Thermostatic Bimetal strip processed to the closest tolerances available, assurance of a long and useful life without attention or service of any kind. The confidence of hundreds of manufacturers of temperature actuated devices is one of the results of Chace's devotion for over a third of a century to the exclusive development and production of precision thermostatic bimetal. Our engineering, research, production and testing departments are recognized as models of progress and efficiency. You can rely on Chace for quality and service beyond your purchase contract.

So remember Chace when you design for protection of valuable equipment or for temperature actuation or indication. Dependable Chace Thermostatic Bimetal is available in over 30 types, in strip, coil or completely fabricated and assembled elements to your design. Write today for new 1958 booklet, "Successful Applications of Chace Thermostatic Bimetal", containing many pages of design data.



W. M. CHACE CO.
Thermostatic Bimetal
1685 BEARD AVE., DETROIT 9, MICH.

For More Information Write No. 257 on Inquiry Card—Page 32



wiping rags provide a choice of a variety of materials readily adapted to the problems of each wiping operation

The Sanitary Institute of America consists of over one hundred members, pledged to maintain a high standard of ethics. For a list of members or Institute Specifications write The Sanitary Institute of America, 173 W. Madison Street, Chicago 2, Illinois.

THE SANITARY INSTITUTE of AMERICA

173 WEST MADISON STREET

CHICAGO 2, ILLINOIS



For More Information Write No. 258 on Inquiry Card—Page 32

CLASSIFIED DEPARTMENT

Contract Work • Used Equipment For Sale • Employment and Business Opportunities

Send orders to: CLASSIFIED DEPARTMENT • PURCHASING • 205 East 42nd Street, New York 17, New York

RATES

Undisplayed (set solid) 90¢ line
Positions Wanted 45¢ line

Displayed \$8.50 inch

REQUIREMENTS

Undisplayed (want ad style), minimum charge 4 lines, prepaid. Figure forty-four letter spaces (five average words) to a line. Add one line for box number address; replies forwarded without charge.
Discount of 10% for twelve consecutive displayed insertions. Forms close 15th of month preceding date of publication.

HAVE YOU ANY SURPLUS FITTINGS FOR SALE?

We are interested in buying Hi-Compression Steel Fittings, primarily (W) WEATHERHEAD AND (I) IMPERIAL makes "ER" in "ERMETO" type, such as Nuts, Sleeves, Male and Female Connectors, Unions, 45 and 90 degree Male and Female Elbows, Male and Female Branch Tees, Tee Unions, Male and Female Run Tees, Bulkhead Unions, etc.

Please submit inventory lists or samples.

Hydro Fittings Sales Company, Dept. PM
2027 S. Michigan Ave., Chicago 16, Ill.
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POSITION WANTED

Purchasing executive heavy experience large manufacturers hard lines and machinery. Will manage or assist busy director. Write, Box 1544, PURCHASING, 205 East 42nd St., New York 17, N. Y.

WE'RE LOOKING TO BUY!!!

• INVENTORIES •
OF DISCONTINUED OR OFF SEASON LINES
• MACHINERY •

PRODUCTION & SPECIAL BUILT

• RAW MATERIALS — EQUIPMENT — PACKAGING SUPPLIES •
USED IN ALL INDUSTRIES

NOTE: — Our buying range is so varied that it is impossible to describe the many items we buy — we will make you a worth while offer for ANYTHING you have for sale.

NATIONAL TRADING CO., 202 CAMDEN ST., NEWARK 3, N. J.

OFFICE PURCHASING and/or office management position desired in Los Angeles proper or vicinity of Beverly Hills, Santa Monica or Culver City, by woman with wide experience buying office supplies and equipment, printing, advertising production and office Services detail. Write, Box 1543, PURCHASING, 205 E. 42nd St., New York 17, N. Y.

15,000 STEEL CANS—BEST OFFER GETS 'EM

15,000 Steel cans with screw top cover. 1 3/4" inner diameter. 2 1/4" depth. Bright tin plated. Perfect condition. Immediate delivery. — Make offer. For sample write to: M. Gerlat: 1334 North 123rd Street, Milwaukee, Wisconsin.

A 4 Point Program

(Continued from page 81)

it's to the company's interest to do so. In order to make the people in the mills more inventory conscious, the Stevens purchasing staff has done more than just write memos. It has developed a regular presentation with visual aids and given it at meetings in the mills to everyone concerned with inventory.

"We figured if we did enough talking to enough people, someone would believe us," says Pinson. But talk was only part of his program. He blew up the exhibits illustrated in this article—the inventory card, the purchasing order formula, and the calculation of standard inventory—to poster size so he could refer to them in his talks. Then he made 8½ x 11 "leave-behinds" of his exhibits to give the mill people something to refer to on the job.

Apparently the mill people both listened and read. At least the program has been such a success that purchasing is playing with the idea of developing something similar to further stimulate interest in standardization. "Your communication can't be too good in a far-flung organization like ours," Pinson declares.

"And that's why good purchasing requires a little bit of good salesmanship," adds Assistant Purchasing Manager Paisley Boney, who was a successful salesman before entering purchasing over ten years ago. (In Boney's case, the background must've been a good one. He also serves as president of the Virginia-Carolinas Purchasing Agents Association.)

"In fact, making the hundreds of people in the organization fully conscious of the benefits of tight inventory control is probably the most important phase of our program," Pinson concludes. "If your organization isn't sold, you're licked before you start on the other three phases of the program. You can't get people to wholeheartedly report surplus, cooperate on standardization, or stay within standard inventory levels if they're not sold on the ideas." At J. P. Stevens, they are.

At Forest City your order for gray iron castings receives *personal* attention



The moment your order is entered by the sales department it is regarded as a challenge.

Can the pattern be improved? Do laboratory tests assure proper grades of raw materials and finished product? On which core-making and molding lines can the order be handled to the greatest advantage?

All such questions receive the careful consideration of the heads of the various departments. From start to finish your order is processed to give you not only the finest in gray iron castings, but also the utmost in service.

Let us show you how we can give your order for gray iron castings our personal attention. At your convenience, our representative will be glad to discuss your particular requirements and our ability to meet them.

The Forest City Foundries Company

2600 West 27th Street • Cleveland 13, Ohio

For More Information Write No. 259 on Inquiry Card—Page 32

For More Information Write No. 260
on Inquiry Card—Page 32→

Help yourself.

Simplified Guide and Data Charts covering **TAYLOR FORGE** Welding Fittings Forged Flanges

INFORMATION REQUIRED ON WRITTEN ORDER

Typical examples showing proper sequence and abbreviated nomenclature

Identification of Fittings not required on order	Quantity	Size	Degree	Weight or SCH No.	Radius	Material	Name
90° Elbow, Long Radius	10	1"	90°	STD	1.8		WeldELLS
90° Elbow, Short Radius	14	2"	90°	X-SHG	1.8		WeldELLS
45° Elbow	6	3"	45°	XR-SHG			Reduc. WeldELLS
90° Reducing Elbow	3	4x2"	90°	STD			WeldELLS, Tee one end
90° Long Tangent one end	2	5"	90°	STD			WeldELLS, Tee both ends
Elbow, both ends	8	8"	180°	STD			WeldELLS
180° Return, Long Radius	12	10"	180°	STD			Tees
180° Return, Short Radius	16	12"		SCH 40			Reduc. Tees
Tees, Straight	3	14x14x10"		SCH 20			Con. Reduc.
Tees, Reducing	1	18x14"		SCH 30			Ecc. Reduc.
Reducers, Concentric	2	12x8"		SCH 60			LJ Stub Ends
Reducers, Eccentric	9	18"		SCH 80			Caps
Lap Joint Stub Ends	14	10"		SCH 100			Crosses
Caps	24	8"		STD			Reduc. Crosses
Crosses, Straight	3	4x4x2x2"		X-SHG			Lateral
Crosses, Reducing	1	4"		X-SHG			Radius Lateral
45° Lateral, Straight	6	6x4x4"		STD			Saddles
45° Lateral, Reducing	21	8" on 10"		X-SHG			Staves
Welding Saddles		30 sets					
Welding Staves							

When ordering regular carbon steel fittings material need not be specified and fittings conforming to ASTM A234, Grade WPB, will be furnished. Any other material must be fully identified by applicable specification.

RANGE OF SIZES (Inches)

FITTING	STD & X-SHG	XX-SHG	LIGHT WALL & SCH 10	SCH 20	SCH 30	SCH 40	SCH 60	SCH 80	SCH 100	SCH 120	SCH 140	SCH 160
90° Elbow, Long Radius	1/2 - 42	1 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
90° Elbow, Short Radius	1/2 - 42	1 1/2 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 1/2 - 24
45° Elbow	3 - 14			8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	3/4 - 24
90° Reducing Elbow	1 1/2 - 42		3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	3/4 - 24
90° Long Tangent Elbow	1 - 42	1 1/2 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
180° Return, Long Radius	1/2 - 30	1 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
180° Return, Short Radius	1/2 - 30	1 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
Tees, Straight & Reducing	1/2 - 42	1 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
Reducers, Conc. & Ecc.	1/2 - 42	1 - 8	3/4 - 30	8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
Lap Joint Stub Ends	1/2 - 24			8 - 30	12 - 24	8 - 24	10 - 24	8 - 24	8 - 24	8 - 24	8 - 24	1 - 24
Caps	1 - 24	1 - 24										
Crosses, Straight & Reducing	1 - 24	1 - 24										
Laterals, Straight & Reducing	1 - 24	1 - 24										
Welding Saddles	1 - 24	1 - 24										
Welding Staves	1 - 24	1 - 24										

- Normal maximum reduction of Tees and Reducers nominal pipe size smaller than half large and size. For exceptions, see Catalogue.
- Maximum reduction of Reducing WeldELLS large and size.
- Reducing on the run Tees, Crosses and Lateral made.
- When ordering reducing fittings to a Sch. thickness, note particularly whether the branch or end is included in that Sch. thickness of the branch or end and make.



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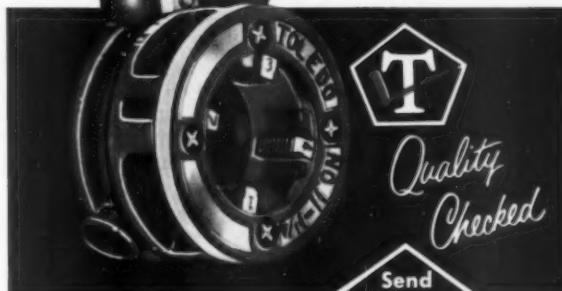


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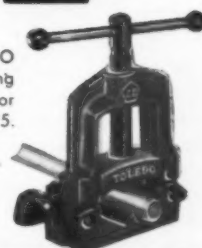


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Letters To The Editor

MATERIALS—MANAGEMENT

Your January 20 issue of *PURCHASING* Magazine carried an article on material management as operated at McCulloch Motors of Los Angeles. This article was so stimulating I should like several people within our organization to have a copy.

Would it be possible to procure six copies of "Materials Management Teamwork Helps Company Grow?" Articles such as the above represents one of the greatest services your publication can render to industry in general.

F. W. Thiele
American Planter Company
Burr Oak, Michigan

CORRECTION

The following sentence appears beginning on line 11, second column page 336 of the December issue: "We have not found formal judgment is required by procurement officers in utilizing the system." The statement actually made in my letter to Mr. Conover was: "We have not found formal advertising to be an entirely mechanical procedure. Considerable thought and judgment are required by procurement officers in utilizing the system."

Since the statement as published differs substantially in substance from the original letter, I would appreciate the publication of an appropriate correction in a subsequent issue.

R. J. Arnold
Rear Admiral, (SC), U.S.N.
Chief of Bureau
Washington, D.C.

• We regret that one line was inadvertently dropped from Admiral Arnold's letter and are happy to print this correction.

PURCHASING TRAFFIC COOPERATE

Mr. Nagely and I are very pleased with the article "How North American Saved \$600,000 on It's Traffic Bill," as published in your issue of January 20. Your presentation of the material we

supplied, supplemented by your most complimentary remarks, was most gratifying to me as general traffic manager of our fine company. I am having the article reproduced for distribution to our buying personnel throughout all divisions of North American Aviation, and I am sure that our traffic managers will utilize this article in the transportation training programs of their respective divisions.

Speaking of Mr. Nagely, I am sorry I did not mention in one of my letters to you that had it not been for his understanding, vision and foresight as corporate director-material, our programs, based on the highest degree of purchasing-traffic cooperation, could never have been sustained all these years.

C. E. Umphress,
General Traffic Manager
North American Aviation, Inc.
Los Angeles, Calif.

WHERE, OH WHERE?

Your October, 1957 issue has been received with mixed emotions of gratification and ironic humor. Grateful, in the sense that my great and good friend Theo E. Ducos has again received well earned national recognition in his article, "Slashing Paperwork on Partial Shipments." Irony, in the fact that you have devoted several articles to purchasing personnel, the acquisition and development of same, i.e., your purchasing opinion poll, "How to Pick an Assistant" and "There's Always a Shortage of Good Buyers."

This issue has a definite personal interest to me because I look upon purchasing as a profession and therefore have for the past ten years endeavored to develop a sound and attractive background in all phases of procurement; supplemented by appropriate formal education. I have been employed in procurement operations and at the same time contributed to all my employer's economic situation through lower costs and efficiency

in industries of equipment distribution, food manufacturing; chemical and aluminum and presently precision parts contracting.

What I am interested in determining is where, oh, where are all these organizations who wish to utilize purchasing personnel with background, experience and ability not to mention essential basics of high integrity, human understanding and one who doesn't believe the grass is greener elsewhere.

For the past two years, I have continually searched the United States for bonafide opportunities to present my resume and shall accept this as one and enclose same herewith. Any and all employment applications will be completed and returned by following mail.

Thank you for the privilege of expressing my views of your excellent magazine.

(name withheld)

PURCHASING CAN SET EXAMPLE

I have just finished reading Eugene S. Page's article entitled "A Guide to Purchasing Administration" in your December issue. I think it is one of the finest that has appeared this year. The only complaint I would have with the author is his adjective "industrial" in his reference to the purchasing function. I am firmly convinced that "institutional" purchasing can well consider the points he has covered.

I also think your editor should have italicized Part 3B under Definitions.

I think far too little emphasis is placed on "minimum functional expense." By performing in a fashion that will promote this philosophy, any purchasing department can be justifiably proud within its own organization and set an example to associated departments, which will result in immeasurable savings.

W.B. Rogers
Manager of Purchases
Cornell University

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E. F. Bauman, Director of Purchases, Federal-Mogul Div., Federal-Mogul-Bower Bearings, Inc., Detroit, Michigan, says, "Due to the compactness and completeness of Conover-Mast Purchasing Directory, it is the most used."

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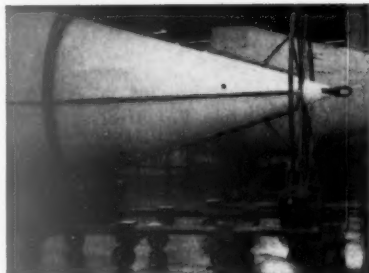
BRANCH OFFICES

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materials-handling news



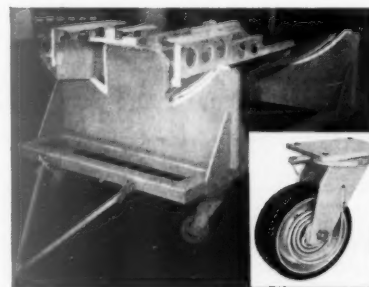
NEW AND UNUSUAL APPLICATIONS OF BASSICK CASTERS THAT MIGHT BE ADAPTED TO YOUR HANDLING PROBLEMS



Redstone Missile rides Bassick casters on the ground. Grooved wheel caster construction permits close control of dolly. Second set of grooved wheel Bassicks permit missile to be rotated, facilitate fueling. Bassick casters are also used in handling The Nike.



Jet-age scaffold rolls to job on Bassick casters, stands steady, thanks to position locks, raises to convenient height for work. Here at Pease Air Force Base, New Hampshire, they're checking a jet engine. Could Bassick casters help speed work or save time in your plant?



Matador Dolly at The Martin Company's Baltimore plant has removable headers set up to transport Matador missile assembly. Bassick Floating Hub casters (inset) absorb shocks, snub out harmful vibration.

Bassick Casters help solve new plant problem

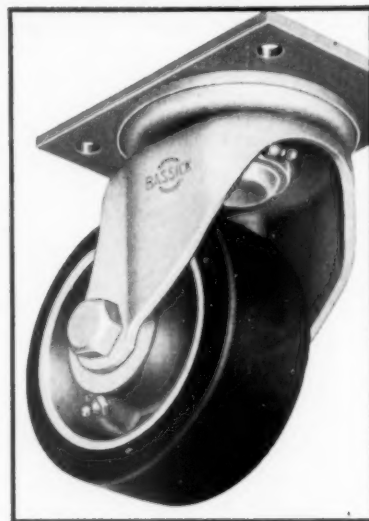
Decentralize for efficiency or centralize for savings . . . planned handling system lets Johnson & Johnson do both!

Johnson & Johnson's much-talked-about new plant at North Brunswick, New Jersey, is an exciting example of the savings possible with efficient materials-handling.

A 3600-ft. towline, with Bassick caster-equipped trucks, links all manufacturing operations to shipping, delivers raw materials and carries away finished products. In the shipping center, a clerk at control board (below) uses two additional 2000-ft. towlines to consign pallet loads to the 12-truck loading docks or storage. This well planned materials-handling system gives Johnson & Johnson the efficiency of decentralized management and production units plus the savings of centralized utility and services at the same time.

Trucks are equipped with 8" Bassick "S99" casters in front, and 12" Bassick "Alcore" wheels at rear. Sealed swivel and wheel bearings of casters minimize maintenance, assure long caster life, and keep floors clean of dripped lubrication grease which is both unsightly and hazardous.

Materials-handling, which represents



Heavy duty Bassick "S99" casters have fully sealed bearings to keep grease in, dirt, water, debris out. They're built to stand the abuse of power pulled applications under heavy loads.

30% of the average manufacturer's production costs, is the one major cost area most capable of reduction. Could Bassick casters spearhead the attack on this "reducible 30%" in your plant, too?



YOUR DISTRIBUTOR SAVES YOU SPACE, TIME



Your local distributor who carries Bassick casters maintains sufficient stocks to meet most day-to-day needs—saves you storage space otherwise needed for supplies. He saves you ordering time, too, by acting as a single, dependable source of supply for a variety of products. Call on him.



THE BASSICK COMPANY, Bridgeport 5, Conn. In Canada: Belleville, Ont. 0.30



NEW! "Feather-touch" PUSH-to-TEST

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Added to Square D Oil-Tight
Pushbutton Line



Completely
oil-tight, even
when depressed

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connections
eliminate
internal wires

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"feel" in test
position

No additional
panel space
required

Choice of
6 color caps

Full range of
voltage ratings

Mounts
interchangeably
with oil-tight
pushbuttons and
selector switches

OIL-TIGHT OPERATORS



Standard Button



Mushroom Button



Selector Switch



Coin-Operated
Selector Switch



Key-Operated
Selector
Switch



Selector
Pushbutton



Stop Button
Lockout



Start Button
Lockout



Maintained
Contact
Attachment

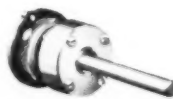


Selector
Switch and
Pushbutton
Lockout

NEW!



4-Position
Joystick
Operator



Wobble Stick Operator



Neoprene Cap

**Here's why Square D Pushbuttons are preferred
—by those who build machines—and by those who buy them!**

Easy to use • Operators require only a single mounting hole for quicker installation. Pressure wire connectors mean simplified wiring.

Longer lasting • All-metal operator construction, anodized aluminum buttons, mean greater mechanical life. Melamine contact blocks with double-break silver contacts assure longer electrical life.

Wide flexibility • Any operator can be used with any contact block to meet all your requirements.

Small size • Only a minimum of panel and back-of-panel space is required.

Variety of contacts • Contact block arrangements include single-pole double-circuit, duplex double-circuit, tandem duplex, three-position duplex, and overlapping contacts.

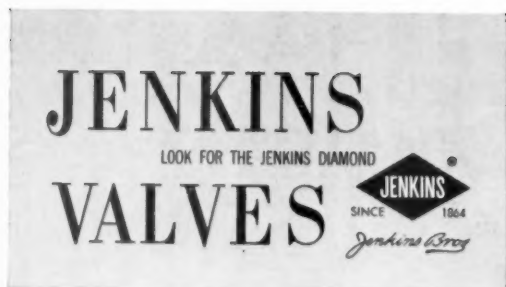
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FOR COMPLETE INFORMATION on oil-tight push-buttons, send for Bulletin 9001-T to Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.



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